

ANNUAL REGISTER

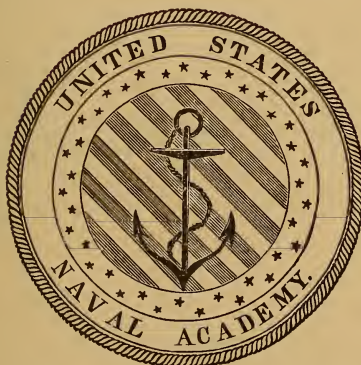
OF THE

UNITED STATES NAVAL ACADEMY,

ANNAPOLIS, MD.

THIRTY-SIXTH ACADEMIC YEAR,

1885-86.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.

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THE UNITED STATES NAVAL ACADEMY.

The United States Naval Academy was founded in 1845, by the Hon. George Bancroft, Secretary of the Navy, in the administration of President James K. Polk. It was formally opened October 10, of that year, under the name of the Naval School, with Commander Franklin Buchanan as Superintendent. It was placed at Annapolis, Md., on the land occupied by Fort Severn, which was given up by the War Department for the purpose. The course was fixed at five years, of which only the first and last were spent at the School, the intervening three being passed at sea. This arrangement was not strictly adhered to, the exigencies of the service making it necessary, in many cases, to shorten the period of study. In January, 1846, four months after the opening of the School, the students consisted of 36 Midshipmen, of the date of 1840, who were preparing for the examination for promotion; 13 of the date of 1841, who were to remain until drafted for service at sea; and 7 Acting Midshipmen, appointed since September of the previous year. The Midshipmen of the date of 1840 were the first to be graduated, finishing their limited course in July, 1846, and they were followed in order by the subsequent dates, until the reorganization of the School, in 1850.

In September, 1849, a Board was appointed to revise the plan and regulations of the Naval School. The Board was composed of the following officers:

Commander William B. Shubrick,
Commander Franklin Buchanan,
Commander Samuel F. Du Pont,
Commander George P. Upshur,
Surgeon W. S. W. Ruschenberger,
Professor William Chauvenet,
Captain Henry Brewerton, U. S. Army.

The plan reported by the Board was approved, and went into operation July 1, 1850.

The new organization provided for a course of seven years, the first two and the last two at the School and the three intermediate years at sea. The School was placed under the supervision of the Bureau of Ordnance and Hydrography, and its name was changed to the United States Naval Academy. The corps of professors was enlarged, the course was extended, and the system of separate departments, with executive heads, was fully adopted. It was provided that a Board of Visitors should make an annual inspection of the Academy, and report upon its condition to the Secretary of the Navy. A suitable vessel was attached to the Academy as a practice-ship, and the annual practice-cruises were begun.

After the system had been in operation a year new changes were proposed, and the recommendations of the Academic Board on the subject were referred to the Board of Examiners of the year 1851, composed of the following officers:

Commodore David Conner,
Captain Samuel L. Breese,
Commander C. K. Stribling,
Commander A. Bigelow,
Commander Franklin Buchanan,
Lieutenant Thomas T. Craven.

The change recommended by the Board of Examiners, and adopted by the Department, consisted mainly in leaving out the requirement of three years of sea-service in the middle of the course, thus making the four years of study consecutive. The practice-cruise supplied the place of the omitted sea-service, and gave better opportunities of training. The change went into operation in November, 1851, together with other improvements recommended by the Board. The system has been continued, with some slight modifications, to the present time. The first class to receive the benefit of it was that which entered in 1851. Six members of this class completed the course in three years, and were graduated in June, 1854; the rest of the class followed in 1855.

In May, 1861, on the outbreak of the war, the Academy was removed to Newport, R. I. The three upper classes were detached and ordered to sea, and the remaining Acting Midshipmen were quartered in the Atlantic House and on board the frigates *Constitution* and *Santee*. In September, 1865, the Academy was moved back to Annapolis, where it has since remained.

When the Bureau of Navigation was established, July 5, 1862, the Academy was placed under its supervision; March 1, 1867, it was placed under the direct care and supervision of the Navy Department, the administrative routine and financial management being still conducted through the Bureau. On the 11th of March, 1869, all official connection with the Bureau came to an end.

The term of the academic course was changed by law, March 3, 1873, from four to six years. The change took effect with the class which entered in the following summer.

In 1866 a class of Acting Third Assistant Engineers was ordered to the Academy for instruction. The course embraced the subjects of steam engineering, mechanism, chemistry, and mechanics, and practical exercises with the steam engine and in the machine-shop. This class was graduated in June, 1868, together with two Cadet-Engineers who had entered the Academy in 1867. After an interval of four years, in October, 1871, a new class of Cadet-Engineers was admitted. This class followed a two years' course, somewhat more extended than that of the class of 1868, and was graduated in 1873. In 1872 and in 1873 new classes were admitted, the first of which left the Academy in 1874 and the second in 1875. By an act of Congress, approved February 24, 1874, the course of instruction for Cadet-Engineers was made four years instead of two; and the new provision was first applied to the class entering the Academy in the year 1874. This class was graduated in June, 1878.

By an act of Congress, approved August 5, 1882, it was provided that from that date "there shall be no appointments of Cadet-Midshipmen or Cadet-Engineers at the Naval Academy, but in lieu thereof Naval Cadets shall be appointed from each Congressional district and at large, as now provided by law for Cadet-Midshipmen, and all the undergraduates at the Naval Academy shall thereafter be designated and called 'Naval Cadets'; and from those who successfully complete the six years' course appointments shall hereafter be made as it is necessary to fill vacancies in the lower grades of the Line and Engineer Corps of the Navy and of the Marine Corps: *And provided further*, That no greater number of appointments into these grades shall be made each year than shall equal the number of vacancies which has occurred in the same grades during the preceding year, such appointments to be made from the graduates of the year at the conclusion of their six years' course, in the order of merit, as determined by the Academic Board of the Naval Academy; the assignment to the various corps to be made by the Secretary of the Navy upon the recommendation of the Academic Board. But nothing herein contained shall reduce the number of appointments from such graduates below ten in each year, nor deprive of such appointment any graduate who may complete the six years' course during the year 1882. And if there be a surplus of graduates, those who do not receive such appointment shall be given a certificate of graduation, an honorable discharge, and one year's sea-pay, as now provided by law for Cadet-Midshipmen; and so much of section 1521 of the Revised Statutes as is inconsistent herewith is hereby repealed."

"That any Cadet whose position in his class entitles him to be retained in the service may, upon his own application, be honorably discharged at the end of four years' course at the Naval Academy, with a proper certificate of graduation."

SUPERINTENDENTS
OF THE
UNITED STATES NAVAL ACADEMY.

Assumed command:

Sept. 3, 1845.—Commander Franklin Buchanan.
Mar. 15, 1847.—Commander George P. Upshur.
July 1, 1850.—Commander Cornelius K. Stribling.
Nov. 1, 1853.—Commander Louis M. Goldsborough.
Sept. 15, 1857.—Captain George S. Blake.
Sept. 9, 1865.—Rear-Admiral David D. Porter.
Dec. 1, 1869.—Commodore John L. Worden.
Sept. 22, 1874.—Rear-Admiral C. R. P. Rodgers.
July 1, 1878.—Commodore Foxhall A. Parker.
Aug. 2, 1879.—Rear-Admiral George B. Balch.
June 13, 1881.—Rear-Admiral C. R. P. Rodgers.
Nov. 14, 1881.—Captain F. M. Ramsay.

BOARD OF VISITORS, JUNE, 1885.

LIEUTENANT-COLONEL ORLANDO M. POE, U. S. Army, *President*.

HON. JOHN R. THOMAS, House of Representatives, *Vice-President*.

Rear-Admiral C. R. P. RODGERS,	U. S. Navy.*
Hon. DANIEL W. VOORHEES,	U. S. Senate.*
Hon. JOHN C. SPOONER,	U. S. Senate.*
Hon. BENJAMIN LE FEVRE,	House of Representatives.
Hon. JOHN G. BALLENTINE,	House of Representatives.
Prof. WILLIAM G. SUMNER,	New Haven, Conn.
Mr. JOHN N. A. GRISWOLD,	New York, N. Y.
Mr. WILLIAM REED,	Baltimore, Md.
Hon. JAMES S. GRINNELL,	Greenfield, Mass.
Hon. A. M. CRAIG,	Galesburg, Ill.

* Not present.

ACADEMIC CALENDAR.

1885-1886.

1885.

Oct. 1.—Beginning of first term Thursday.

1886.

Jan. 25-30.—Semi-annual examination Monday-Saturday.

Jan. 30.—End of first term Saturday.

June 4-11.—Annual examination Friday-Friday.

June 5.—End of academic year, 1885-86 Saturday.

May 15.—Examination of candidates for admission as Naval
Cadets Saturday.

Sept. 1.—Examination of candidates for admission as Naval
Cadets Wednesday.

Oct. 1.—Beginning of first term, 1886-87 Friday.

The academic months end on the following days:

1885-1886.

October	Oct. 31	February	Feb. 27
November	Nov. 28	March	Mar. 27
December	Dec. 26	April	Apr. 24
January	Jan. 23	May	May 29

1886-1887.

October	Oct. 30	December	Dec. 25
November	Nov. 27	January	Jan. 22

SEPTEMBER.							MARCH.						
Sun.	M.	T.	W.	T.	F.	Sat.	Sun.	M.	T.	W.	T.	F.	Sat.
---	---	1	2	3	4	5	---	1	2	3	4	5	6
6	7	8	9	10	11	12	7	8	9	10	11	12	13
13	14	15	16	17	18	19	14	15	16	17	18	19	20
20	21	22	23	24	25	26	21	22	23	24	25	26	27
27	28	29	30	---	---	---	28	29	30	31	---	---	---
OCTOBER.							APRIL.						
---	---	---	---	1	2	3	---	---	---	---	1	2	3
4	5	6	7	8	9	10	4	5	6	7	8	9	10
11	12	13	14	15	16	17	11	12	13	14	15	16	17
18	19	20	21	22	23	24	18	19	20	21	22	23	24
25	26	27	28	29	30	31	25	26	27	28	29	30	---
NOVEMBER.							MAY.						
1	2	3	4	5	6	7	---	---	---	---	---	1	8
8	9	10	11	12	13	14	2	3	4	5	6	7	15
15	16	17	18	19	20	21	9	10	11	12	13	14	22
22	23	24	25	26	27	28	16	17	18	19	20	21	29
29	30	---	---	---	---	---	23	24	25	26	27	28	---
---	---	---	---	---	---	---	30	31	---	---	---	---	---
DECEMBER.							JUNE.						
---	---	1	2	3	4	5	---	---	1	2	3	4	5
6	7	8	9	10	11	12	6	7	8	9	10	11	12
13	14	15	16	17	18	19	13	14	15	16	17	18	19
20	21	22	23	24	25	26	20	21	22	23	24	25	26
27	28	29	30	31	---	---	27	28	29	30	---	---	---
JANUARY.							SEPTEMBER.						
---	---	---	---	---	1	2	---	---	---	1	2	3	4
3	4	5	6	7	8	9	---	---	---	8	9	10	11
10	11	12	13	14	15	16	5	6	7	14	15	16	17
17	18	19	20	21	22	23	12	13	14	21	22	23	24
24	25	26	27	28	29	30	19	20	21	28	29	30	---
31	---	---	---	---	---	---	26	27	28	---	---	---	---
FEBRUARY.							OCTOBER.						
---	1	2	3	4	5	6	---	---	---	---	1	2	---
7	8	9	10	11	12	13	3	4	5	6	7	8	9
14	15	16	17	18	19	20	10	11	12	13	14	15	16
21	22	23	24	25	26	27	17	18	19	20	21	22	23
28	---	---	---	---	---	---	24	25	26	27	28	29	30
---	---	---	---	---	---	---	31	---	---	---	---	---	---

OFFICERS
ATTACHED TO THE
UNITED STATES NAVAL ACADEMY.

SUPERINTENDENT,
CAPTAIN F. M. RAMSAY.

Assistants to the Superintendent,
LIEUTENANT-COMMANDER W. T. BURWELL.

In charge of Buildings and Grounds,
LIEUTENANT C. BELKNAP.

Commandant of Cadets,
COMMANDER N. H. FARQUHAR.

Assistants to the Commandant of Cadets,
LIEUTENANT E. H. GHEEN,
LIEUTENANT R. T. JASPER,
LIEUTENANT T. PORTER,
LIEUTENANT J. W. DANENHOWER.

SEAMANSHIP, NAVAL TACTICS, AND NAVAL CONSTRUCTION.

Head of Department,
COMMANDER H. ELMER.

Assistants,
LIEUTENANT A. C. DILLINGHAM,
LIEUTENANT C. W. BARTLETT,
LIEUTENANT C. D. GALLOWAY.

Instructor in Boxing, Swimming, and Gymnastics,
MATTHEW STROHM.

ORDNANCE AND GUNNERY.

Head of Department,
COMMANDER C. L. HUNTINGTON.

Assistants,
LIEUTENANT R. R. INGERSOLL,
ENSIGN C. S. MCCLAIN,
ENSIGN J. H. GLENNON.

Sword-Master,
ANTOINE J. CORBESIER.

Assistant Sword-Masters,
JEAN B. RETZ,
GEORGE HEINTZ.

ASTRONOMY, NAVIGATION, AND SURVEYING.

*Head of Department,**Assistants,*

LIEUTENANT B. F. TILLEY,
LIEUTENANT A. ROSS,
LIEUTENANT W. J. BARNETTE.

STEAM-ENGINEERING.

Head of Department,

CHIEF ENGINEER E. FARMER.

Assistants,

PASSED ASSISTANT ENGINEER R. W. MILLIGAN,
PASSED ASSISTANT ENGINEER J. K. BARTON,
ASSISTANT ENGINEER G. H. T. BABBITT,
ASSISTANT ENGINEER F. J. SCHELL,
ASSISTANT ENGINEER J. L. GOW.

MECHANICS AND APPLIED MATHEMATICS.

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PROFESSOR J. M. RICE, S. B., PH. D.

Assistants,

LIEUTENANT J. P. MERRELL,
ENSIGN W. F. FULLAM,
ENSIGN J. G. QUINBY,
PROFESSOR W. W. JOHNSON, A. M.

PHYSICS AND CHEMISTRY.

Head of Department,

PROFESSOR H. D. TODD.

Assistants,

ENSIGN H. D. KNAPP,
ENSIGN J. B. BLISH,
PROFESSOR N. M. TERRY, A. M., PH. D.
PROFESSOR C. E. MUNROE, S. B.

MATHEMATICS.

Head of Department,

PROFESSOR W. W. HENDRICKSON.

Assistants,

LIEUTENANT H. O. RITTENHOUSE,
LIEUTENANT A. C. HODGSON,
LIEUTENANT H. C. GEARING,
ENSIGN R. C. SMITH,
ENSIGN J. HOOD.

ENGLISH STUDIES, HISTORY, AND LAW.

Head of Department,

COMMANDER J. SCHOULER.

Assistants,

LIEUTENANT J. M. MILLER,
 LIEUTENANT G. W. TYLER,
 LIEUTENANT E. B. BARRY,
 LIEUTENANT R. MITCHELL,
 LIEUTENANT C. R. MILES,
 ENSIGN J. GIBBONS,
 PROFESSOR W. W. FAY, A. M.

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Assistants,

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 LIEUTENANT J. O. NICOLSON,
 LIEUTENANT J. T. SMITH,
 PROFESSOR J. LEROUX,
 ASSISTANT PROFESSOR A. V. S. COURCELLE,
 ASSISTANT PROFESSOR E. DOVILLIERS,
 ASSISTANT PROFESSOR H. DALMON.

MECHANICAL DRAWING.

Head of Department,

LIEUTENANT H. KNOX.

Assistants,

LIEUTENANT W. P. CLASON,
 PROFESSOR M. OLIVER,
 ASSISTANT ENGINEER W. F. WORTHINGTON,
 ASSISTANT PROFESSOR C. F. BLAUVELT.

OFFICERS NOT ATTACHED TO THE ACADEMIC STAFF.

LIEUTENANT C. T. HUTCHINS, *in charge of Ships.*
 SURGEON T. C. WALTON, M. D.
 PASSED ASSISTANT SURGEON B. F. ROGERS, M. D.
 PASSED ASSISTANT SURGEON S. H. DICKSON, M. D.
 PASSED ASSISTANT SURGEON J. W. STEELE, M. D.
 PAYMASTER, F. H. ARMS, *Pay Officer and Storekeeper.*
 PAYMASTER J. P. LOOMIS, *Commissary.*
 CHAPLAIN A. A. McALISTER.
 J. J. GRAFF, *Assistant Librarian.*
 R. M. CHASE, *Secretary.*

Attached to the Ships.

BOATSWAIN J. S. SINCLAIR.
 GUNNER ROBERT SOMMERS.
 CARPENTER G. W. CONOVER.
 SAILMAKER U. E. TALLMAN.

MATES.

Attached to the Santee, the Wyoming, and the Phlox.

SAMUEL GEE,
JAMES HILL,
C. J. MURPHY,

B. G. PERRY,
JOSEPH ROGERS,
ROBERT SILVER,

W. G. SMITH.

MARINE OFFICERS.

CAPTAIN McLANE TILTON, *Commanding Marines.*
FIRST LIEUTENANT S. H. GIBSON.
SECOND LIEUTENANT H. K. GILMAN.

ACADEMIC BOARD.

THE SUPERINTENDENT.

THE COMMANDANT OF CADETS.

THE HEAD OF THE DEPARTMENT OF SEAMANSHIP, NAVAL TACTICS, AND NAVAL CONSTRUCTION.

THE HEAD OF THE DEPARTMENT OF ORDNANCE AND GUNNERY.

THE HEAD OF THE DEPARTMENT OF ASTRONOMY, NAVIGATION, AND SURVEYING.

THE HEAD OF THE DEPARTMENT OF STEAM ENGINEERING.

THE HEAD OF THE DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

THE HEAD OF THE DEPARTMENT OF PHYSICS AND CHEMISTRY.

THE HEAD OF THE DEPARTMENT OF MATHEMATICS.

THE HEAD OF THE DEPARTMENT OF ENGLISH STUDIES, HISTORY, AND LAW.

THE HEAD OF THE DEPARTMENT OF MODERN LANGUAGES.

THE HEAD OF THE DEPARTMENT OF MECHANICAL DRAWING.

CADET OFFICERS.

CADET-LIEUTENANT-COMMANDER.

H. K. HINES.

CADET-LIEUTENANTS.

W. H. G. BULLARD,
J. W. OMAN,

W. H. FOUST,
G. F. COOPER.

CADET-MASTERS.

F. A. LEVIS,
G. BREED,

W. A. EDGAR,
W. H. CALDWELL.

CADET-ENSIGNS.

G. F. HAWK,
C. C. BILLINGS,

F. N. KRESS,
P. ANDREWS,

W. L. DODD.

Cadet-petty-officers of the first class.

R. D. TISDALE,
E. T. WITHERSPOON,
S. M. STRITE,
J. G. BERRY,

J. T. McMILLAN,
H. E. RUMSEY,
E. V. D. JOHNSON,
J. N. GRISWOLD,

S. B. WINRAM,
D. M. YOUNG,
F. W. JENKINS,
F. W. HIBBS.

Cadet-petty-officers of the second class.

E. SNOW,
L. C. BERTOLETTE,
H. T. BRYAN,
R. STOCKER,

B. C. DECKER,
B. W. WELLS,
W. S. BURKE,
H. L. PECKHAM,

E. MOALE,
G. H. BURRAGE,
W. G. McMILLAN,
N. A. McCULLY.

SUMMER CRUISE, 1885.

OFFICERS AND NAVAL CADETS.

UNITED STATES PRACTICE SHIP CONSTELLATION.

COMMANDER C. L. HUNTINGTON, *Commanding.*
LIEUTENANT R. R. INGERSOLL, *Executive Officer.*
LIEUTENANT G. W. TYLER, *Navigator and Instructor in Navigation.*
LIEUTENANT E. B. BARRY, *Watch Officer.*
LIEUTENANT J. W. DANENHOWER, *Watch Officer.*
LIEUTENANT H. C. GEARING, *Watch Officer.*
ENSIGN J. G. QUINBY, *Watch Officer.*
ENSIGN C. S. MCCLAIN, *Watch Officer.*
ENSIGN R. C. SMITH, *Assistant to Instructor in Navigation.*
SURGEON G. A. BRIGHT.
PASSED ASSISTANT SURGEON J. M. STEELE.
PAYMASTER J. P. LOOMIS.
CHAPLAIN A. A. MCALISTER.

NAVAL CADETS.

First Class.

Andrews, P.	Foust, W. H.	McMillan, J. T.
Berry, J. G.	Griswold, J. N.	Oman, J. W.
Billings, C. C.	Hawk, G. F.	Rumsey, H. E.
Breed, G.	Hines, H. K.	Strite, S. M.
Bullard, W. H. G.	Jenkins, F. W., jr.	Tisdale, R. D.
Caldwell, W. H.	Johnson, E. V. D.	Winram, S. B.
Cooper, G. F.	Kress, F. N.	Witherspoon, E. T.
Dodd, W. L.	Levis, F. A.	Young, D. M.
Edgar, W. A.		

Third Class.

Aiken, S. J.	Chandler, L. H.	Hayward, G. N.
Alexander, J. N.	Clement, E. E.	Hicks, N. W.
Anderson, L. J.	Close, H. B.	Hill, A. N.
Bailey, R.	Cramer, S. W.	Hubbard, J. F.
Bassett, F. B.	Croze, W. M.	Hughes, C. F.
Baya, W. P.	Fitch, F.	Hull, R. C.
Beach, E. L.	Fitzgerald, G. W.	Kane, T. P.
Benham, H. K.	Franklin, W. B.	Kinnear, C. H.
Beswick, D. W.	Gates, H. G.	Kochersperger, W. D.
Bischof, G. C. W.	Gillespie, W. T.	Koester, O. W.
Brittain, C. B.	Gould, W. H.	Lange, H. D.
Campbell, A. P.	Hartrath, A.	Lejeune, J. A.
Carden, G. L.	Harris, J. V.	Loyall, G.

Third Class—Continued.

Marble, F.	Quinby, E. R.	Taylor, H. C.
Melson, E. P.	Reid, J. H.	Tutein, C. D.
Miller, M. L.	Robertson, A. H.	Van Antwerp, W. C.
Monroe, M. D.	Robison, S. S.	Vansant, W. N.
Morgan, C. B.	Rowan, W. M'D.	West, E. E.
Morris, J. R.	Selfridge, G. S.	Willbur, C. D.
Mowbray, L.	Shaffer, P. C.	Williams, C. B.
Murphy, I. I.	Stafford, L. A.	Williams, G. W.
Norton, A. L.	Stickney, H. O.	

Fourth Class.

Alford, H. C.	Guest, M. S.	Phelps, W. W.
Anderson, E. B.	Harrison, W. K.	Potter, C. W.
Caffery, D.	Hobson, R. P.	Rock, G. H.
Carney, R. E.	Kaiser, L. A.	Sexton, H. C.
Chace, M.	Kemp, H. G.	Seymour, W. H.
Clinton, J. W.	Kennedy, R. M.	Stockton, R.
De Steiguer, L. R.	Kittelle, S. E.	Terhune, W. J.
Emerson, S.	Lewis, F. N.	Thomas, C. F.
Fermier, G. L.	MacDougall, W. D.	Woods, H. T.
Fuller, B. H.	Neumann, B. S.	Woodward, H. L.
Gaines, E.	Patton, J. B.	Woodworth, J. A.

NAVAL CADETS ON BOARD THE UNITED STATES SHIP SANTEE, RETAINED AT THE ACADEMY FOR MACHINE SHOP AND OTHER PRACTICAL INSTRUCTION.

Second Class.

Allen, H. A.	Decker, B. C.	Murray, W. J.
Allen, W. R.	Draper, H. L.	O'Halloran, T. M.
Ballinger, J. G.	Durell, E. H.	Peckham, H. L.
Bertolette, L. C.	Edmonds, S. P.	Pigott, M. R.
Blackwood, N. J.	Eyre, G. W.	Ricketts, J. V.
Blue, V.	Eyre, W. P.	Rodgers, H. C.
Boughter, F.	Gueydan, H. L.	Russell, F. M.
Bower, J. M.	Hibbs, F. W.	Salter, J. C.
Bristol, M. L.	Hill, C. S.	Scales, A. H.
Brown, F. H.	Hudson, C. E.	Sims, J. W.
Bryan, H. F.	Hurlbut, S. R.	Snow, E.
Burke, W. S.	Jackson, R. H.	Steber, B.
Burrage, G. H.	Jewett, T. S.	Stearns, B. W.
Carnahan, J. S.	Johnston, C. E.	Stocker, R.
Cash, C. F.	Kalbach, L. A.	Stone, C. M.
Childs, H. L.	La Tourette, W. S.	Straub, A. A.
Churchill, C.	Logan, G. W.	Swanstrom, F. E.
Cloke, W. S.	Long, A. T.	Ubsdell, J. A.
Cochran, C. S.	McCully, N. A.	Washington, T.
Cole, E. K.	McMillan, W. G.	Waters, G.
Coleman, R.	Marriott, J. J. C.	Wells, B. W.
Craig, C. C.	Martin, J. J.	Welsh, J. J.
Craig, C. S.	Moale, E.	Williams, W. H.
Darby, S. E.	Moore, F. G.	Wiley, H. A.
Davis, A. M.	Moseley, W. B.	Young, L. L.

SUMMARY.

On board United States Practice-Ship Constellation	. . . . .	123
On board United States Ship Santee.	. . . . .	75
Total	. . . . .	198

SYNOPSIS OF THE CRUISE.

CONSTELLATION.

Commissioned May 15, 1885. Cadets embarked June 8, 1885.

Sailed from Annapolis June 16; beat down the bay, and went to sea June 22.

Arrived at Portsmouth, N. H., July 17.

Sailed from Portsmouth July 31.

Arrived at Lynn Haven Roads August 13, and reached Annapolis August 27, 1885.

4829 N A—2

Class of naval cadets appointed 1880, performing required service afloat.

Order of merit.	Name.	State from which appointed.	Date of admission.
*1	Hewes, Charles Hinman	Pennsylvania	Oct. 1, 1880
*2	Knepper, Chester Mahlon	Pennsylvania	Oct. 1, 1880
*3	Capps, Washington Lee	Virginia	Oct. 1, 1880
*4	Hoggatt, Willford Bacon	Indiana	June 11, 1880
*5	Williams, Clarence Stewart	Ohio	June 11, 1880
6	Beecher, Albert Morrison	Iowa	Oct. 1, 1880
7	Hill, Frank Kinsey	Ohio	Sept. 22, 1880
8	Welles, Roger, jr.	Connecticut	Sept. 22, 1880
9	Moseley, Nathaniel Stockwell	California	Mar. 22, 1880
10	Field, Horace Almeron	New York	Oct. 1, 1880
11	McNulta, Herbert	Illinois	June 11, 1880
12	Hulme, Walter Oliphant	New Jersey	Oct. 1, 1880
13	McDonald, John Daniel	Nevada	Oct. 6, 1880
14	Parmenter, Henry Earl	Rhode Island	Oct. 1, 1880
15	Jones, Hilary Pollard	Virginia	Sept. 22, 1880
16	Terrell, Douglass Fuqua	Mississippi	Sept. 22, 1880
17	Hazeltine, Charles Walter	Missouri	June 11, 1880
18	Loomis, Frederick James	Connecticut	Oct. 1, 1880
19	Seymour, Isaac Knight	Maine	Sept. 22, 1880
20	Shoemaker, William Rawle	New Mexico	June 11, 1880
21	Plunkett, Charles Peshall	District of Columbia	Sept. 30, 1879
22	McCreary, Wirt	Pennsylvania	June 11, 1879
23	Fahs, Charles Marion	Alabama	Oct. 1, 1880
24	Wernitz, Robert Lincoln	Pennsylvania	Oct. 1, 1880
25	Whittlesey, Humes Houston	Indiana	Oct. 1, 1880
26	McKean, Josiah Slatts	Ohio	Sept. 22, 1879
27	Hayes, Charles Harold	Pennsylvania	Sept. 22, 1880
28	Jones, Horace Walker	Virginia	Oct. 1, 1880
29	Macpherson, Victor	Kentucky	Sept. 22, 1880
30	Bush, William Wirt, jr	New York	Sept. 22, 1880
31	Davis, Edward	Pennsylvania	Sept. 22, 1880
32	Johnston, William	Mississippi	Oct. 1, 1880
33	Starr, John Barton	Kansas	Oct. 1, 1880
34	Smith, Sidney Fuller	Massachusetts	June 11, 1880
35	O'Malley, William Ambrose	Pennsylvania	Oct. 1, 1880
6	Richardson, Thornton Russell	Pennsylvania	Sept. 22, 1880
37	Mathews, Albert Clifton	Ohio	Oct. 1, 1880
38	Wirt, William Edgar	Ohio	Sept. 22, 1880
39	Orr, Robert Hunter	Delaware	Oct. 1, 1880

RELATIVE STANDING OF NAVAL CADETS
AT THE
ANNUAL EXAMINATION, JUNE, 1885.

P denotes physically disqualified for the naval service.

† Found deficient, allowed a re-examination, passed, and continued with class.

‡ Found deficient, allowed a re-examination, again deficient, and recommended to be dropped,

§ Found deficient, and recommended to be dropped.

Class appointed 1881, 37 members,

Order of general merit.	Name.	State.	Date of admission.
*1	Taylor, David Watson	Virginia	Oct. 1, 1881
*2	McKay, William	Pennsylvania	Oct. 1, 1881
*3	Tawresey, John Godwin	Delaware	Oct. 1, 1881
*4	Dieffenbach, Albert Christian	Pennsylvania	Oct. 1, 1881
*5	Fenton, Theodore Cornell	Pennsylvania	Oct. 1, 1881
*6	Chase, Volney Ogle	Louisiana	Oct. 1, 1881
7	Miller, William Gardner	Virginia	Oct. 1, 1881
8	Slocum, George Ralph	Illinois	Sept. 22, 1881
9	Kline, George Washington	New Jersey	Oct. 1, 1881
10	Kittrell, James Wesson	Mississippi	Sept. 23, 1881
11	Joynes, Walker Waller	Tennessee	Oct. 1, 1881
12	Thompson, Alexander	New York	Sept. 23, 1881
13	Stanworth, Charles Semmes	Virginia	Oct. 1, 1881
14	Strauss, Joseph	Virginia	Oct. 1, 1881
15	Bispham, Harrison Augustus	Pennsylvania	Oct. 1, 1881
16	McGuinness, John Patrick	Idaho Territory	Sept. 21, 1881
17	Russell, Robert Lee	Georgia	June 14, 1881
18	Lombard, Benjamin Mathews	Iowa	Sept. 21, 1881
19	Rust, Armistead	Virginia	Oct. 1, 1881
20	Nes, David Small	Pennsylvania	June 13, 1881
21	Eberle, Edward Walter	Arkansas	Sept. 22, 1881
22	Slade, Thomas Bog	Georgia	June 11, 1881
23	Gilmer, William Wirt	Virginia	June 11, 1880
24	Shindel, James Elliott	Pennsylvania	June 13, 1881
25	McCormick, Charles Monod	Virginia	Oct. 1, 1881
26	Tarbox, Glennie	South Carolina	Sept. 22, 1881
27	Evans, George Robert	Massachusetts	Oct. 1, 1881
28	Coontz, Robert Edward	Missouri	Sept. 22, 1881
29	Poe, Charles Carroll	Pennsylvania	Sept. 21, 1881
30	Wright, Benjamin	Tennessee	Sept. 21, 1881
31	Burnstine, Albert	Michigan	Sept. 22, 1881
32	Dutton, Arthur Henry	Indiana	Sept. 21, 1881
33	Corpening, Charles Macon	North Carolina	June 11, 1881
34	Bootes, James Thomas	Delaware	Oct. 1, 1881
35	Pitner, Samuel Ellis	Tennessee	Sept. 22, 1881
36	Howell, Robert Beecher	Michigan	Sept. 21, 1881
§	Uberroth, Preston Henry	Pennsylvania	Oct. 1, 1881

(performing required service afloat).

Age at date of admission.		Order of merit in—						Conduct.	Number of demerits.	Sea-service in practice-ships.		Order of general merit.
Years.	Months.	Astronomy, navigation, and surveying.	Leastsquares, and strength of materials.	Ordnance and gunnery.	Ship-building.	Seamanship and naval tactics.	Practical instruction in steam.			Months.	Days.	
17	7	1	1	1	2	2	4	15	10	4	24	*1
16	9	2	4	2	3	4	11	3	1	4	24	*2
19	8	3	2	3	1	1	2	3	1	4	24	*3
18	9	6	3	5	5	8	1	15	10	4	24	*4
18	8	4	6	3	4	3	4	3	1	4	24	*5
20	2	5	8	8	8	9	6	24	14	4	24	*6
16	9	12	16	14	6	11	21	19	12	4	24	7
17	0	13	10	13	11	15	15	10	4	4	18	8
17	9	9	12	9	16	13	6	13	9	4	24	9
17	6	7	9	7	6	7	15	17	11	4	18	10
19	1	14	30	16	14	6	25	6	2	4	24	11
17	0	16	14	10	20	19	24	12	6	4	18	12
17	2	10	7	12	17	27	22	27	23	4	24	13
19	10	19	13	10	24	28	9	21	13	4	24	14
16	8	21	23	23	15	15	8	1	0	4	24	15
17	0	20	21	18	23	18	11	17	11	4	18	16
16	7	10	19	25	27	21	33	13	9	6	27	17
14	9	8	5	6	8	35	32	26	21	4	18	18
19	3	34	25	33	25	26	18	7	3	4	24	19
15	11	22	23	27	12	14	3	29	27	6	27	20
17	0	18	20	20	21	11	30	11	5	4	18	21
17	11	28	18	28	30	24	13	19	12	6	27	22
17	0	29	28	25	10	9	14	1	0	8	17	23
17	8	14	11	17	18	20	27	7	3	6	27	24
19	6	23	17	21	19	17	22	24	14	4	24	25
17	7	26	15	15	13	5	19	34	53	4	18	26
18	7	17	33	24	34	32	10	31	36	4	24	27
17	3	23	32	22	31	29	27	7	3	4	18	28
17	9	25	29	28	21	31	30	33	51	4	18	29
16	2	27	25	19	31	22	34	21	13	4	18	30
17	0	31	37	30	27	32	37	35	58	3	22	31
17	1	33	34	34	37	30	29	21	13	4	18	32
16	5	31	22	32	33	25	35	28	26	6	27	33
17	10	35	36	36	27	23	20	29	27	4	24	34
17	3	36	35	31	35	34	17	32	40	4	18	35
17	8	29	27	35	25	36	36	35	58	4	18	36
18	11	37	30	37	36	37	25	37	65	4	24	§

Order of annual merit.	Name.	State.	Date of admission.
11	Andrews, Philip	New Jersey	Sept. 28, 1882
†	Berry, John Giveen	Maine	June 17, 1882
†	Billings, Cornelius Canfield	Vermont	Sept. 28, 1882
*2	Breed, George	Kentucky	June 17, 1882
4	Bullard, William Hannum Grubb	Pennsylvania	Sept. 28, 1882
8	Caldwell, William Howell	Tennessee	Sept. 28, 1882
18	Cooper, George Franklin	Georgia	June 17, 1882
9	Dodd, Willard Louis	Indiana	Sept. 28, 1882
6	Edgar, Webster Appleton	New York	Sept. 22, 1881
7	Foust, William Harry	Ohio	Sept. 28, 1882
16	Griswold, John Noble	Wisconsin	Sept. 30, 1882
15	Hawk, George Frederick	Pennsylvania	June 17, 1882
10	Hines, Harold Kemble	Kentucky	Oct. 2, 1882
3	Jenkins, Friend William	Pennsylvania	Sept. 28, 1882
19	Johnson, Edwin Van Dusen	Indiana	June 17, 1882
*1	Kress, Frederick Norton	New York	Oct. 3, 1882
†	Levis, Francis Adelbert	New York	June 17, 1882
20	McMillan, John Taylor	California	June 17, 1882
5	Oman, Joseph Wallace	Pennsylvania	June 17, 1882
14	Rumsey, Harry Edgerton	Wyoming	Sept. 28, 1882
13	Strite, Samuel Melchoir	Maryland	Sept. 28, 1882
12	Tisdale, Ryland Dillard	Kentucky	Sept. 28, 1882
†	Winram, Samuel Black	Missouri	June 17, 1882
17	Witherspoon, Edward Taylor	Connecticut	Sept. 28, 1882
†	Young, David May	Virginia	Sept. 30, 1882

25 members.

Age at date of admission.		Order of merit in—							Number of demerits.	Sea-service in practice-ships.		Order of annual merit.
Years.	Months.	Mechanical drawing.	International law.	Calculus and mechanics.	Sound, light, and heat.	Electricity and magnetism.	Steam machinery, marine engines, and boilers.	Conduct.		Months.	Days.	
16	6	14	5	6	18	16	13	11	31	5	5	11
16	4	19	17	24	19	24	21	23	102	7	11	†
17	9	11	23	21	24	23	23	1	10	5	5	†
17	11	13	11	1	2	1	2	9	25	7	11	*2
15	10	5	4	5	9	10	6	8	17	5	5	4
17	9	7	10	4	14	12	8	17	45	5	5	8
17	9	25	8	20	17	17	20	6	15	7	11	18
17	3	4	6	18	12	14	9	10	29	5	5	9
17	5	3	13	8	10	8	4	4	12	7	11	6
17	11	1	9	13	5	9	4	15	37	5	5	7
17	0	23	16	13	8	11	12	25	115	5	5	16
18	0	22	20	9	5	12	18	12	33	7	11	15
15	9	14	3	10	13	5	16	6	15	5	5	10
17	3	10	7	3	3	3	7	19	56	5	5	3
16	9	18	19	11	15	20	16	22	95	7	11	19
15	9	2	2	2	1	2	1	18	51	5	5	*1
17	2	5	14	24	21	15	15	4	12	7	11	†
15	3	24	17	12	23	19	21	21	90	7	11	20
17	10	9	12	16	4	6	3	1	10	7	11	5
15	7	16	22	18	11	7	11	16	43	5	5	14
16	4	17	25	7	19	4	10	20	70	5	5	13
16	8	12	15	15	7	21	14	1	10	5	5	12
17	8	8	24	21	24	25	19	13	36	7	11	†
17	10	20	1	17	15	18	24	13	36	5	5	17
16	6	21	21	23	22	21	25	24	110	5	5	†

Order of annual merit.	Name.	State.	Date of admission.
44	Allen, Henry Asa	Wisconsin	Sept. 4, 1883
P 64	Allen, Walter Raymond	New York	Sept. 6, 1883
5	Bachman, Morris Piper	Iowa	Sept. 4, 1883
43	Ballinger, James Grey	Kansas	Sept. 6, 1883
6	Bertolette, Levi Calvin	Delaware	Sept. 4, 1883
23	Blackwood, Norman Jerome	Pennsylvania	May 17, 1883
49	Blue, Victor	South Carolina	Sept. 6, 1883
41	Boughter, Francis	Pennsylvania	May 17, 1883
37	Bower, James McKesson	Illinois	Sept. 15, 1883
18	Bristol, Mark Lambert	New Jersey	May 19, 1883
40	Brown, Ford Hopkins	Iowa	May 17, 1883
*4	Bryan, Henry Francis	Ohio	May 2, 1883
10	Burke, Walter Safford	Illinois	May 17, 1883
45	Burrage, Guy Hamilton	Massachusetts	Sept. 6, 1883
70	Carnahan, John Sylvanus	Ohio	Sept. 27, 1883
30	Cash, Charles Frederick	Wisconsin	May 17, 1883
36	Childs, Herbert Leslie	Massachusetts	May 17, 1883
34	Churchill, Creighton	Missouri	Sept. 4, 1883
9	Cloke, William Snelling	New Jersey	May 17, 1883
50	Cochran, Claude Stanley	Ohio	Sept. 4, 1883
28	Cole, Eli Kelley	New York	Sept. 4, 1883
46	Coleman, Ross	California	May 17, 1883
59	Craig, Charles Curtis	Illinois	May 17, 1883
57	Craig, Colin Samuel	Iowa	May 17, 1883
31	Darby, Samuel Edgar	Arkansas	Sept. 28, 1882
29	Davis, Archibald Hilliard	North Carolina	May 17, 1883
7	Decker, Benton Clark	Illinois	May 17, 1883
27	Draper, Herbert Lemuel	Kansas	Sept. 6, 1883
16	Durell, Edward Hovey	Massachusetts	May 17, 1883
38	Edmonds, Samuel Preston	Missouri	May 19, 1883
42	Eyre, George Washington	Pennsylvania	Sept. 4, 1883
68	Eyre, William Preston	Pennsylvania	May 17, 1883
54	Gueydan, Henry Louis	Texas	Sept. 4, 1883
*1	Hibbs, Frank Warren	Minnesota	Sept. 4, 1883
60	Hill, Charles Sanderson	Arizona Territory	Sept. 6, 1883
†	Hudson, Charles Edward	Arkansas	Sept. 4, 1883
5	Hurlbut, Samuel Ray	Connecticut	Sept. 4, 1883
47	Jackson, Richard Harrison	Alabama	June 4, 1883
63	Jewett, Thomas Scovell	Kansas	May 17, 1883
20	Johnston, Charles Ernest	Ohio	May 17, 1883
†	Kalbach, Lewis Alvin	Pennsylvania	Sept. 26, 1883
56	La Tourrette, William Sherman	Ohio	Oct. 21, 1882
17	Logan, George Wood	Ohio	Sept. 3, 1883
19	Long, Andrew Theodore	North Carolina	May 17, 1883
12	McCully, Newton Alexander, jr.	South Carolina	May 19, 1883
15	McMillan, William Graham	North Carolina	Sept. 4, 1883

77 members.

Age at date of admission.		Order of merit in—						Number of demerits.	Sea-service in practice-ships.		Order of annual merit.
Years.	Months.	Trigonometry, analytical and descriptive geometry.	Chemistry.	English, history, and law.	French and Spanish.	Mechanical drawing.	Conduct.		Months.	Days.	
16	7	43	44	42	66	26	24	40	2	12	44
17	10	48	52	54	71	57	67	139	2	12	P 64
16	4	76	76	68	57	77	28	44	2	12	5
16	2	34	29	45	51	35	54	84	2	12	43
17	2	11	8	22	5	21	12	27	2	12	6
17	4	40	37	17	9	9	26	43	4	24	23
17	9	54	46	38	44	57	5	11	2	12	49
14	4	38	14	50	43	36	63	115	4	24	41
17	6	28	32	47	41	38	51	79	2	12	37
15	1	9	17	19	39	16	73	173	4	24	18
16	6	22	59	70	61	19	30	45	4	24	40
18	0	8	16	1	3	23	38	58	4	24	*4
16	4	10	7	36	45	3	6	16	4	24	10
16	2	47	66	71	74	2	10	25	2	12	45
17	9	64	58	77	77	50	73	173	2	12	70
16	10	52	26	50	22	18	35	51	4	24	30
15	4	52	42	19	11	63	46	71	4	24	36
17	0	27	42	43	34	37	47	72	2	12	34
17	3	12	2	21	7	19	55	97	4	24	9
17	10	42	44	56	73	34	33	50	2	12	50
16	0	34	24	22	48	30	17	34	2	12	28
15	10	32	39	38	56	43	48	74	3	25	46
16	11	70	70	50	38	48	30	45	4	24	59
17	1	49	40	54	53	63	44	68	4	24	57
15	8	46	53	45	6	48	37	55	4	24	31
16	8	34	29	25	28	33	36	53	4	09	29
15	4	3	4	12	32	28	11	26	4	24	7
16	8	30	23	29	34	23	22	39	2	12	27
17	3	20	11	17	9	31	42	66	4	24	16
15	9	25	34	62	30	40	59	105	4	24	38
17	11	38	57	59	63	11	21	38	2	12	42
15	10	60	62	59	67	46	75	180	4	24	68
15	8	30	61	73	4	54	76	196	2	12	54
15	10	2	1	7	1	7	28	44	2	12	*1
16	2	60	46	38	25	74	69	149	2	12	60
16	10	75	66	68	70	54	39	59	2	12	†
16	10	6	4	5	15	15	56	91	2	12	5
17	0	59	37	30	26	73	8	24	4	24	47
16	9	60	54	47	59	59	65	118	4	24	63
17	2	37	9	27	11	29	8	24	4	24	20
16	9	64	74	43	28	32	4	9	2	12	†
17	5	56	51	38	48	76	32	49	4	24	56
14	10	22	22	4	1	54	49	75	2	12	17
17	1	15	21	16	27	51	12	27	4	24	19
15	11	13	26	24	15	6	14	28	4	24	12
17	6	21	19	10	32	10	1	1	2	12	15

Order of annual merit.	Name.	State.	Date of admission.
P 8	Marriott, John Jordan Crittenden <i>a</i>	At large	Sept. 26, 1883
61	Martin, John Joseph	New York	Sept. 4, 1883
22	Moale, Edward, jr.	Montana	June 17, 1882
69	Moore, Fred. Gordon	Kansas	May 17, 1883
53	Moseley, William Branch	Texas	Sept. 6, 1883
62	Murray, William Joseph	New York	June 17, 1882
67	O'Halloran, Thomas Michael	Pennsylvania	May 17, 1883
26	Peckham, Henry Lincoln	Rhode Island	May 17, 1883
21	Pigott, Michael Royston	Massachusetts	Sept. 20, 1883
66	Rodgers, Henry Croghan	At large	May 19, 1883
52	Ricketts, Joseph Vincent	Ohio	Sept. 6, 1883
51	Russell, Frank Mead	Pennsylvania	May 19, 1883
	Salter, Jasper Colton <i>b</i>	New York	Sept. 28, 1882
48	Scales, Archibald Henderson	North Carolina	May 19, 1883
55	Sims, James Whittle	Virginia	Sept. 4, 1883
*3	Snow, Elliot	Utah Territory	Sept. 4, 1883
14	Steber, Benjamin	New York	May 17, 1883
13	Stearns, Ben Wade	Iowa	May 17, 1883
*2	Stocker, Robert	Minnesota	Sept. 4, 1883
32	Stone, Clarence Morton	Indiana	Sept. 25, 1883
†	Straub, August Adolph	Pennsylvania	Sept. 6, 1883
35	Swanstrom, Frederick Emil	Minnesota	Sept. 6, 1883
39	Ubsdell, John Arnold	Missouri	Sept. 6, 1883
25	Washington, Thomas	North Carolina	May 17, 1883
24	Waters, Glen	Georgia	May 17, 1883
11	Wells, Benjamin Warner, jr.	Illinois	May 17, 1883
58	Welsh, Joseph John	Ohio	May 19, 1883
‡	Wilmer, William Ringgold	Maryland	May 17, 1883
33	Williams, William Herschel	Alabama	May 17, 1883
65	Wiley, Henry Ariosto <i>c</i>	Texas	May 17, 1883
†	Young, Louis le Sassier	Louisiana	Sept. 6, 1883

a Resigned.*b* Found deficient; allowed a re-examination; dropped, as physically disqualified for the naval service.*c* Dismissed for hazing.

members—Continued.

Age at date of admission.		Order of merit in—						Number of demerits.	Sea-service in practice-ships.		Order of annual merit
Years.	Months.	Trigonometry, analytical, and descriptive geometry.	Chemistry.	English, history, and law.	French and Spanish.	Mechanical drawing.	Conduct.		Months.	Days.	
16	6	5	10	8	21	5	57	99	2	12	8
17	7	43	66	58	71	67	40	60	2	12	61
15	8	19	19	35	17	38	33	50	7	00	22
17	6	68	60	74	76	59	66	125	4	24	69
16	9	50	49	49	31	70	41	65	2	12	53
15	3	70	66	32	63	61	15	33	4	18	62
16	4	58	64	59	61	70	71	154	4	24	67
17	10	24	31	36	55	8	15	33	4	24	26
17	7	50	4	11	8	11	60	106	2	12	21
16	6	72	65	50	69	67	58	101	4	24	66
16	11	64	49	62	41	42	6	16	2	12	52
17	4	33	32	65	54	67	43	67	4	24	51
15	7	68	75	30	52	44	26	43	4	24	
15	1	54	35	32	57	26	52	80	4	24	48
16	10	57	70	62	60	21	22	39	2	12	55
17	2	3	3	8	23	14	18	37	2	12	*3
17	6	17	15	14	37	4	50	78	4	24	14
15	0	7	35	12	24	17	24	40	4	24	13
17	7	1	18	26	18	1	18	37	2	12	*2
16	11	18	25	56	46	41	61	113	2	12	32
15	7	73	73	75	68	61	77	244	2	12	††
16	10	28	62	27	46	23	53	82	2	12	35
16	10	43	46	34	20	51	44	68	2	12	39
18	0	26	28	5	39	44	2	7	4	24	25
14	11	16	12	1	13	70	72	167	4	24	24
15	4	14	12	3	14	11	18	37	4	24	11
16	9	40	41	65	34	66	68	142	2	12	58
16	1	77	77	76	75	51	62	114	4	24	§
16	7	67	54	14	19	46	2	7	4	24	33
16	3	60	56	67	48	75	64	116	4	24	65
17	10	74	72	72	63	63	70	151	2	12	†

Order of annual merit.	Name.	State.	Date of admission.
45	Aiken, Samuel James	Tennessee	Sept. 4, 1884
53	Alexander, James Nelson	Missouri	Sept. 6, 1884
25	Anderson, Louis Joseph	Georgia	May 27, 1884
59	Bailey, Ralph a	Arkansas	Sept. 5, 1884
38	Bassett, Frederic Brewster, jr.	New York	May 19, 1884
20	Baya, William Peter	Florida	May 20, 1884
32	Beach, Edward Latimer	Minnesota	May 20, 1884
18	Benham, Henry Kennedy	New York	May 19, 1884
8	Beswick, Delworth Wilson	Michigan	May 20, 1884
50	Bischof, George Christian William	Nebraska	Sept. 5, 1884
19	Brittain, Carlo Bonaparte	Kentucky	May 19, 1884
35	Campbell, Archie Perrin	Missouri	May 20, 1884
††	Carden, Godfrey Lynet	California	May 19, 1884
40	Chandler, Lloyd Horwitz	New Hampshire	Sept. 4, 1884
48	Clement, Edward Edmund	Kentucky	Sept. 29, 1884
37	Close, Hiram Benjamin	Texas	May 22, 1884
44	Cramer, Stuart Warren	Illinois	Sept. 4, 1884
11	Croze, William Michael	Indiana	May 19, 1884
††	Fairfax, Franklin Ernest	New York	Sept. 6, 1884
61	Fitch, Frederic	Colorado	Sept. 4, 1884
34	Fitzgerald, George William	Illinois	Sept. 4, 1884
38	Franklin, William Buell	Maryland	May 20, 1884
36	Gates, Herbert Grenville	Michigan	Sept. 4, 1884
26	Gillespie, William Thomas	Virginia	Sept. 5, 1884
49	Gould, William Henry	Ohio	Sept. 4, 1884
††	Harris, Jephtha Vining	Florida	May 20, 1884
*7	Hartrath, Armin	Michigan	Sept. 4, 1884
*4	Hayward, George North	New York	May 19, 1884
58	Hicks, Nathan Woodhull	Minnesota	May 19, 1884
27	Hill, Alfred Newcomb	Illinois	May 20, 1884
*6	Hubbard, John Flavel	New York	Sept. 5, 1884
51	Hughes, Charles Frederic	Maine	Sept. 6, 1884
13	Hull, Robert Carter	At large	May 20, 1884
12	Ingate, Clarence Louis Adrian	Alabama	May 20, 1884
57	Kane, Theodore Porter	New York	May 19, 1884
52	Kinnear, Claude Hamilton	Virginia	Sept. 26, 1884
60	Kochersperger, William Daniel	Pennsylvania	May 20, 1884
17	Koester, Oscar William	Pennsylvania	April 5, 1884
21	Lange, Hermann Diedrick	New York	Sept. 5, 1884
*3	Lejeune, John Archer	Louisiana	May 19, 1884
23	Loyall, George	Virginia	Sept. 24, 1884
*1	Marble, Frank	New York	Sept. 4, 1884
62	Melson, Edmund Preston	Missouri	May 20, 1884
*2	Miller, Marcus Lyon	Massachusetts	Sept. 4, 1884
14	Monroe, Moses Daniel	New York	May 19, 1884
10	Morgan, Casey Bruce	Mississippi	Sept. 4, 1884
22	Morris, Joseph Ralston	Illinois	May 19, 1884
56	Mowbray, Louis	New York	May 21, 1884

a Dismissed for hazing.

68 members.

Age at date of admission.		Order of merit in—				Number of demerits.	Sea-service in practice-ships.		Order of annual merit.
Years.	Months.	English and history.	Algebra and geometry.	French and Spanish.	Conduct.		Months.	Days.	
17	7	49	28	56	2	11	2	23	45
17	2	66	32	59	21	37	2	23	53
17	10	11	23	41	48	84	5	5	25
16	11	59	43	64	24	38	2	23	59
15	4	31	38	33	52	90	5	5	38
15	8	29	16	23	5	16	5	5	20
16	10	26	26	44	21	37	5	5	32
16	9	35	3	28	36	61	5	5	18
15	8	18	15	8	2	11	5	5	8
17	10	48	63	54	5	16	2	23	50
17	4	16	21	22	39	66	5	5	19
16	0	36	43	25	18	36	4	5	35
17	9	31	64	52	13	27	5	5	††
15	0	43	54	20	30	49	2	23	40
16	7	39	55	40	38	64	2	23	48
17	3	65	3	57	33	60	5	5	37
16	5	26	52	43	21	37	2	23	44
17	3	9	12	29	29	47	5	5	11
17	10	52	68	68	5	16			††
17	2	63	40	52	64	213	2	23	61
17	6	47	25	30	53	94	2	23	34
16	3	43	27	44	28	45	5	5	38
17	4	31	33	31	55	100	2	23	36
15	5	40	10	21	63	145	2	23	26
16	3	46	49	44	57	106	2	23	49
17	11	60	67	65	56	101	5	5	††
16	0	1	33	1	62	113	2	23	*7
17	11	8	9	4	58	107	5	5	*4
16	8	49	59	60	49	85	5	5	58
17	5	24	39	15	16	33	5	5	27
17	2	5	8	12	45	73	2	23	*6
17	10	38	46	62	26	42	2	23	51
14	7	17	7	10	64	213	5	5	13
16	4	19	19	9	18	36	5	5	12
15	2	64	50	50	50	86	5	5	57
16	3	66	55	36	9	20	2	23	52
15	9	60	33	37	67	279	5	5	60
17	10	29	18	14	41	68	5	5	17
17	7	20	40	5	43	69	2	23	21
17	4	2	20	2	61	112	5	5	*3
16	6	51	22	7	50	86	2	23	23
17	0	3	1	3	27	44	2	23	*1
17	7	68	60	65	37	63	5	5	62
17	11	12	6	6	11	24	2	23	*2
17	7	12	13	27	60	111	5	5	14
16	10	6	10	33	16	33	2	23	10
17	5	12	31	18	32	57	5	5	22
17	2	43	60	61	46	81	5	5	56

Order of annual merit.	Name.	State.	Date of admission.
31	Murphy, Ignatius Ingoldsby	New York	Sept. 8, 1884
24	Norton, Albert Leland	Ohio	May 23, 1884
63	Quinby, Edwin Rufus	New York	May 22, 1884
42	Reid, James Henry	Virginia	Sept. 4, 1884
15	Robertson, Ashley Herman	Illinois	Sept. 4, 1884
28	Robison, Samuel Shelburn	Pennsylvania	Sept. 4, 1884
29	Rowan, Willie McDaniel	West Virginia	May 19, 1884
30	Selfridge, George Shepley	At large	Sept. 5, 1884
47	Shaffer, Paul Clarke	Ohio	May 20, 1884
	Smith, Ernest Frederick ^a	Illinois	Sept. 5, 1884
32	Stafford, Leroy Augustus	Louisiana	Sept. 15, 1884
41	Stickney, Herman Osman	Kentucky	Sept. 4, 1884
54	Taylor, Henry, jr.	At large	May 27, 1884
	Tutein, Constantine Diedrick ^a	Massachusetts	Sept. 6, 1884
9	Van Antwerp, William Clarkson	Iowa	May 19, 1884
*5	Vansant, William Newton	Pennsylvania	Sept. 4, 1884
46	West, Ernest Edward	Georgia	May 23, 1884
16	Wilbur, Curtis Dwight	Dakota	May 19, 1884
55	Williams, Chester Bond	Iowa	May 23, 1884
43	Williams, George Washington	South Carolina	Sept. 6, 1884

^a Deficient, allowed re-examination, resigned.

68 members—Continued.

Age at date of admission.		Order of merit in—				Number of demerits.	Sea-service in practice-ships.		Order of annual merit.
Years.	Months.	English and history.	Algebra and geometry.	French and Spanish.	Conduct.		Months.	Days.	
17	4	25	45	19	44	71	2	23	31
17	11	6	28	39	1	8	5	5	24
14	9	62	52	58	68	300	5	5	63
14	9	52	28	48	2	11	2	23	42
16	8	22	5	35	31	52	2	23	15
17	3	20	33	26	33	60	2	23	28
17	8	26	57	15	12	26	5	5	29
15	11	23	57	15	40	67	2	23	30
15	5	36	48	48	9	20	5	5	47
16	0	55	64	63	15	29	0	0	
14	9	52	33	13	41	68	2	23	32
16	8	41	46	31	18	36	2	23	41
16	2	57	60	37	54	95	5	5	54
16	2	58	66	55	66	225	2	23	
16	10	9	17	10	59	110	5	5	9
15	6	4	2	23	25	39	2	23	*5
16	10	56	24	51	33	60	5	5	46
17	5	15	13	44	5	16	4	5	16
17	10	41	50	67	13	27	5	5	55
15	7	31	40	41	46	81	2	23	42

Fourth class—86 members.

Name.	State.	Date of admission.	Age at date of admission.		Sea-service in practice-ships.	
			Years.	Months.	Months.	Days.
Alford, Harvey Carroll . . .	Illinois . . .	May 20, 1885	17	3	2	23
Anderson, Ernest Bently . . .	Kentucky . . .	May 22, 1885	16	8	2	23
Bradshaw, George Brown . . .	Texas . . .	Sept. 4, 1885	15	4		
Brand, Charles Augustine . . .	Connecticut . .	Sept. 8, 1885	17	4		
Bunker, Charles Mills . . .	Wisconsin . . .	Sept. 5, 1885	15	11		
Caffery, Donelson . . .	Louisiana . . .	May 22, 1885	15	0	2	
Carney, Robert Ernest . . .	Wisconsin . . .	May 21, 1885	16	5	2	2
Chace, Morgan . . .	New Jersey . .	May 21, 1885	17	7	2	
Clinton, James William . . .	New York . . .	May 21, 1885	16	2	2	
Cohen, John Sandford . . .	Georgia . . .	Sept. 4, 1885	15	7		
Cole, William Carey . . .	Illinois . . .	Sept. 5, 1885	17	1		
Danforth, George Washington .	Missouri . . .	Sept. 7, 1885	17	7		
Driggs, Louis Labadie . . .	Nebraska . . .	Sept. 28, 1885	17	1		
Dutton, Robert McMillan . . .	California . . .	Sept. 4, 1885	15	10		
Emerson, Selden . . .	Kansas . . .	May 22, 1885	17	10	2	
Everhart, Lay Hampton . . .	Alabama . . .	Sept. 29, 1885	15	9		
Fermier, George Lucien . . .	Indiana . . .	May 21, 1885	17	2	2	
Fife, George Buchanan . . .	At large . . .	Sept. 5, 1885	16	1		
Frick, Oliver O'Donnell . . .	Georgia . . .	Sept. 8, 1885	16			
Fuller, Ben Hebard . . .	Michigan . . .	May 22, 1885	15	3	2	
Gaines, Edward . . .	Missouri . . .	May 21, 1885	17	6	2	
Gray, George Rufus . . .	Massachusetts .	Sept. 5, 1885	16	10		
Guest, Middleton Semmes . . .	At large . . .	May 21, 1885	16	0		23
Harrison, William Kelly . . .	Texas . . .	May 23, 1885	14	10	2	23
Hobson, Richmond Pearson . .	Alabama . . .	May 21, 1885	14	9	2	23
Hoff, Arthur Bainbridge . . .	At large . . .	Sept. 28, 1885	15	9		
Horne, Adrian Lorenzo . . .	New Hampshire .	Sept. 5, 1885	15	6		
Howry, Lucien Beverly . . .	Mississippi . .	Sept. 7, 1885	15	10		
Hutchison, Benjamin Franklin	Missouri . . .	Sept. 5, 1885	17	7		
Hyland, John Aloysius . . .	Pennsylvania . .	Sept. 7, 1885	17	7		
Johns, Vandyke . . .	Maryland . . .	Sept. 25, 1885	17	7		
Johnson, Sydney Smith . . .	Texas . . .	Sept. 7, 1885	17	2		
Kaiser, Louis Anthony . . .	Illinois . . .	May 20, 1885	15	1	2	23
Kemp, Henry Greenway . . .	Virginia . . .	May 27, 1885	17	8	2	23
Kennedy, Robert Morris . . .	Pennsylvania . .	May 21, 1885	17	11	2	23
Kenney, Richard Edgar . . .	Ohio . . .	Sept. 28, 1885	16	11		
King, Stephen Gray Otis . . .	Ohio . . .	Sept. 28, 1885	17	9		
Kittelle, Sumner Ely . . .	New York . . .	May 19, 1885	17	11	2	23
Kirk, George William . . .	Missouri . . .	Sept. 7, 1885	17	1		
Krumbhaar, Alfred Penn . . .	Louisiana . . .	Sept. 5, 1885	16	8		
Lewis, Frederick Nelson . . .	New York . . .	May 22, 1885	17	1	2	23
Long, Charles Grant . . .	Massachusetts . .	Sept. 7, 1885	15	9		
Lowndes, Edward Rutledge . .	Michigan . . .	Sept. 29, 1885	17	8		
Lucas, Lewis Clarke . . .	Ohio . . .	Sept. 9, 1885	17	10		
Magruder, Thomas Pickett . .	Mississippi . . .	Sept. 3, 1885	17	10		
Marvell, George Ralph . . .	Massachusetts . .	Sept. 7, 1885	16	0		
MacDougall, William Dugald . .	New York . . .	May 19, 1885	16	11	2	23
McLemore, Albert Sidney . . .	Tennessee . . .	Sept. 7, 1885	16	4		
Mendell, George Henry, jr. . .	California . . .	Sept. 5, 1885	17	1		
Mitchell, George Grant . . .	Indiana . . .	Sept. 7, 1885	16	0		

Fourth class—86 members—Continued.

Name.	State.	Date of admission.	Age at date of admission.		Sea-service in practice-ships.	
			Years.	Months.	Months.	Days.
Montgomery, Wallace Blount .	Alabama . .	Sept. 5, 1885	17	10		
Neumann, Bertram Stansbury .	New Jersey .	May 22, 1885	17	7	2	23
Nulton, Louis McCoy . . .	Virginia . .	Sept. 8, 1885	16	1		
Offley, Cleland Nelson . . .	Indiana . .	Sept. 5, 1885	16	3		
Patton, John Bryson . . .	South Carolina	May 21, 1885	17	11	2	23
Paul, George Howard . . .	Wisconsin . .	Sept. 7, 1885	15	0		
Pegram, George Blacknall .	Texas . . .	Sept. 29, 1885	15	11		
Phelps, William Woodward .	Maryland . .	May 19, 1885	15	6	2	23
Potter, Charles Waller . . .	Michigan . .	May 22, 1885	16	11	2	23
Pratt, William Veazie . . .	Maine . . .	Sept. 9, 1885	16	6		
Preston, Charles Francis . .	Maryland . .	Sept. 4, 1885	14	4		
Prochazka, Julius . . .	Wisconsin . .	Sept. 7, 1885	16	10		
Raymond, William Wise . . .	Massachusetts	Sept. 7, 1885	17	1		
Rightor, Henry James . . .	Louisiana . .	Sept. 4, 1885	15	8		
Rock, George Henry . . .	Michigan . .	May 20, 1885	16	6	2	23
Schaeffer, Adolph	Illinois . . .	Sept. 7, 1885	17	8		
Schley, Oskaloosa Smith . .	Indiana . . .	Sept. 17, 1885	17	2		
Seeley, John Bennett . . .	New York . .	Sept. 3, 1885	17	11		
Sexton, Horatio Clay . . .	Indiana . . .	May 19, 1885	15	11	2	23
Seymour, William Henry . .	Alabama . . .	May 27, 1885	17	5	2	23
Shannon, Robert Hine . . .	Iowa	Sept. 28, 1885	18	0		
Staples, George Kelley . . .	New York . .	Sept. 30, 1885	16	4		
Steiguer, Louis Rudolph de .	Ohio	Mar. 17, 1885	18	0	2	23
Stockton, Richard	At large . . .	May 19, 1885	14	11	2	23
Stokes, Marcus Butler . . .	South Carolina	Sept. 7, 1885	17	9		
Terhune, Warren Jay . . .	New Jersey .	May 19, 1885	16	1	2	23
Thomas, Cully Fleming . . .	Tennessee . .	May 21, 1885	16	11	2	23
Thompson, Alfred Segurd . .	Wisconsin . .	Sept. 5, 1885	16	5		
Twining, Nathan Crook . . .	Wisconsin . .	Sept. 4, 1885	16	8		
Vander Horst, Elias	South Carolina	Sept. 5, 1885	16	6		
Wall, Garrett Buckner . . .	New York . .	Oct. 1, 1885	15	6		
Webb, Thomas Shappard . . .	Tennessee . .	Oct. 2, 1885	16	9		
Williams, Philip	Vermont . . .	Sept. 4, 1885	15	7		
Woods, Howard Thorpe . . .	Kansas . . .	May 19, 1885	16	5	2	23
Woodward, Henry Lake . . .	New York . .	May 19, 1885	17	1	2	23
Woodworth, James Armstrong .	Massachusetts	May 22, 1885	17	8	2	23

SUMMARY OF CADETS AT THE U. S. NAVAL ACADEMY.

October 21, 1885.

First class	25 members.
Second class	70 members.
Third class	62 members.
Fourth class	86 members.
Total	243

RESIGNATIONS AND DISMISSALS.

October 30, 1884, to October 21, 1885.

RESIGNED.

Naval Cadet Van Buren Dye	Oct. 30, 1884
Naval Cadet James A. Howze	Dec. 12, 1884
Naval Cadet John M. Van Allen	Jan. 17, 1885
Naval Cadet Oliver O. Frick	Feb. 7, 1885
Naval Cadet Julius M. Dashiell	Feb. 9, 1885
Naval Cadet Benjamin Jacobs	Feb. 9, 1885
Naval Cadet George B. Reilly	Feb. 9, 1885
Naval Cadet John W. Stearns	Feb. 9, 1885
Naval Cadet William F. Bruns	Feb. 9, 1885
Naval Cadet Henry Beckwith	Feb. 9, 1885
Naval Cadet Herman H. Behse	Feb. 9, 1885
Naval Cadet Charles A. Brand	Feb. 9, 1885
Naval Cadet Henry W. Carpenter	Feb. 9, 1885
Naval Cadet Robert Coe	Feb. 9, 1885
Naval Cadet Robert W. Hagood	Feb. 9, 1885
Naval Cadet Roger Ap' C. Jones	Feb. 9, 1885
Naval Cadet Henry G. Kemp	Feb. 9, 1885
Naval Cadet Thomas C. Kierulf	Feb. 9, 1885
Naval Cadet John L. Lafferty	Feb. 9, 1885
Naval Cadet James H. Scott	Feb. 9, 1885
Naval Cadet Richard M. Smith	Feb. 9, 1885
Naval Cadet Lawrence H. Moses	April 15, 1885
Naval Cadet William C. Callaghan	April 27, 1885
Naval Cadet Clinton L. Hall	May 5, 1885
Naval Cadet John Wedderburn	May 26, 1885
Naval Cadet Preston H. Uberroth	June 11, 1885
Naval Cadet William R. Wilmer	June 13, 1885
Naval Cadet Morris P. Bachman	June 13, 1885
Naval Cadet Eustace S. Glascock	July 2, 1885

Naval Cadet Ernest F. Smith	Sept. 25, 1885
Naval Cadet Constantine D. Tutein	Sept. 28, 1885
Naval Cadet August A. Straub	Oct. 2, 1885
Naval Cadet Jephtha V. Harris	Oct. 3, 1885
Naval Cadet Godfrey L. Carden	Oct. 3, 1885
Naval Cadet Franklin E. Fairfax	Oct. 5, 1885
Naval Cadet J. J. C. Marriott	Oct. 19, 1885

DROPPED.

Naval Cadet John C. P. DeKrafft	Feb. 9, 1885
Naval Cadet Walter R. Allen	Oct. 5, 1885
Naval Cadet Jasper C. Salter	Oct. 5, 1885

DISMISSED.

Naval Cadet George B. Tennant	Jan. 7, 1885
Naval Cadet Miles G. O'Neale	Feb. 6, 1885
Naval Cadet Frank O. Murdough	Feb. 6, 1885
Naval Cadet James F. Riley	Feb. 6, 1885
Naval Cadet Jacob L. Knørnschild	March 3, 1885
Naval Cadet Henry A. Wiley*	Sept. 14, 1885
Naval Cadet Ralph Bailey*	Oct. 21, 1885

DIED.

Naval Cadet Marcus F. Smoak	Feb. 11, 1885
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* For hazing.

MERIT-ROLLS FOR 1884-85.

Merit-rolls, made out annually for each class, show the proficiency of the cadets in each branch of study. The numbers given in the table, page 62, showing the relative weight of the different branches, are used as coefficients; the final mark in each branch (on a scale of 4) being multiplied by the number assigned to that branch. The sum of the products, after adding the multiple for conduct, is the final mark of the cadet for the year.

In the case of cadets who take an advanced course in any branch, the final mark in that branch is determined by adding to the final mark received in the required course one-fifth of the amount by which the final mark in the advanced course exceeds 2.50.

In the graduating merit-roll, the final standing for the course is determined by the sum of the yearly marks.

"Cadets who attain 85 per cent. of the multiple in any year shall be distinguished by a star affixed to their names on the merit-rolls."—(Regulations U. S. Naval Academy, § 150.)

The diplomas of cadets whose final marks on the graduating merit-roll are not less than 85 per cent. of the maximum, read "passed with distinction;" those whose final marks are between 74 per cent. and 85 per cent. of the maximum, read "passed with credit;" and those whose final marks are between 62½ per cent. and 74 per cent. of the maximum, read "passed."

P denotes physically disqualified for the naval service.

†, found deficient, allowed a re-examination, and continued with class.

††, found deficient, allowed a re-examination, again deficient, and recommended to be dropped.

§, found deficient, and recommended to be dropped.

Merit-roll of the graduating class of naval cadets at the conclusion of the six years' course, June, 1885.

	NAME.	Seamanship and naval tactics.	Gunnery.	Steam engineering.	Navigation.	French or Spanish.	Cruise reports, journals, and testimonials.	Aggregate for examination.	General aggregate for four years.	Final aggregate.	ASSIGNMENT.
		60	48	48	48	24	12	240	760	1000	
	Maxima										
*1	Samuel D. Greene	54.90	45.00	37.56	43.20	21.60	10.65	212.91	697.65	910.56	Ensign.
*2	Samuel W. Armistead	50.55	42.72	42.96	45.36	15.00	10.14	206.73	684.20	890.93	Ensign.
*3	George W. Street	48.75	45.00	30.36	41.16	19.50	7.89	192.66	691.44	884.10	Ensign.
*4	Charles P. Eaton	44.55	48.00	35.64	42.36	19.20	10.20	199.95	657.75	857.70	Ensign.
*5	John M. Elliott	52.20	48.00	41.64	42.96	18.30	10.74	213.84	641.25	855.09	Ensign.
6	William J. Baxter	40.50	37.68	36.00	36.36	18.00	8.85	177.39	666.56	843.95	Assistant engineer.
7	George W. Littlehales <i>b</i>	48.30	38.16	43.20	38.76	20.40	10.65	199.47	643.55	843.02	Honorably discharged. <i>c</i>
8	Charles W. Dyson	46.20	46.56	36.36	37.80	16.20	9.60	192.72	642.39	835.11	Assistant engineer.
9	William F. Darrah	48.00	41.64	33.84	40.56	18.30	9.75	192.09	632.78	824.87	Assistant engineer.
10	John B. Jackson	44.55	33.96	30.00	38.16	19.80	10.59	177.06	644.30	821.36	Ensign.
11	Charles E. Sweeting	50.55	40.08	30.12	42.00	18.60	7.89	189.24	632.01	821.25	Ensign.
12	Albion S. Keith <i>b</i>	44.85	45.24	30.00	39.60	21.30	8.55	189.54	626.73	816.27	Honorably discharged. <i>c</i>
13	Richard W. Barkley <i>b</i>	40.05	43.92	31.92	39.36	18.00	7.35	180.60	633.96	814.56	Honorably discharged. <i>c</i>
14	Benjamin E. Thurston	51.00	40.08	33.60	44.40	19.80	9.39	198.27	608.65	806.92	Ensign.
15	Harry George	45.30	37.20	30.00	44.40	16.80	10.35	184.05	620.67	834.72	Ensign.
16	Frederick L. Chapin	53.25	39.00	30.00	41.16	19.20	11.25	193.86	587.66	781.52	Ensign.
17	William C. Herbert	44.70	41.88	32.88	37.20	18.30	8.64	183.60	574.27	757.87	Assistant engineer.
18	Alexander S. Halstead	33.75	31.20	30.00	38.76	17.70	9.75	161.16	589.30	750.46	Assistant engineer.
19	Harry A. Field	48.75	29.76	30.36	40.80	18.90	10.74	179.31	566.42	745.73	Ensign.
20	Charles F. Webster	34.95	35.76	38.16	39.96	18.00	8.34	175.17	566.08	741.25	Honorably discharged. <i>c</i>
21	Thomas A. Witherspoon	37.50	38.64	33.72	38.16	20.70	9.75	178.47	559.50	737.97	Honorably discharged. <i>c</i>
22	Robert C. Alexander	37.50	29.64	30.36	33.60	17.10	8.70	156.90	576.98	733.88	Honorably discharged. <i>c</i>

b Not recommended for appointment in the Navy in consequence of being physically disqualified. *c* In accordance with an act of Congress dated August 5, 1882.

	NAME.	ASSIGNMENT.									
		Seamanship and naval tactics.	Gunnery.	Steam engineering.	Navigation.	French or Spanish.	Cruise reports, journals, and testimonials.	Aggregate for examination.	General aggregate for four years.	Final aggregate.	
	Maxima	60	48	48	48	24	12	240	760	1000	
23	Alfred P. Agee	46.35	30.72	30.00	37.20	18.00	9.15	171.42	561.25	732.67	Honorably discharged. <i>c</i>
24	George C. Stout	41.10	27.24	30.24	30.96	16.50	9.54	155.58	556.26	711.84	Honorably discharged. <i>c</i>
25	Harry H. Bathis	41.85	29.16	25.08	39.60	15.00	9.24	159.93	550.31	710.24	Honorably discharged. <i>c</i>
26	James E. Palmer	48.30	32.64	33.60	39.60	13.80	9.00	176.94	529.82	706.76	Honorably discharged. <i>c</i>
27	Timothy S. O'Leary	40.35	34.56	23.40	39.00	16.80	9.54	163.65	538.54	702.19	Honorably discharged. <i>c</i>
28	Robert T. Frazier	42.15	20.16	21.00	30.00	15.90	7.95	137.16	556.90	694.06	Honorably discharged. <i>c</i>
P29	Frank R. Colvin	38.85	29.64	23.16	36.36	16.80	6.54	151.35	539.91	691.26	Honorably discharged. <i>c</i>
30	Robert H. Woods	44.25	28.08	27.48	35.76	15.30	9.00	159.87	531.37	691.24	Honorably discharged. <i>c</i>
31	Robert L. Lerch	41.10	19.56	30.12	30.00	20.10	7.29	148.17	535.57	683.74	Honorably discharged. <i>c</i>
P32	Patrick H. Phlllin	38.10	25.68	28.20	30.00	12.00	8.55	143.53	538.21	680.74	Honorably discharged. <i>c</i>
33	Harry C. Pettit	33.90	28.32	30.36	31.56	17.10	9.60	150.84	522.38	673.22	Honorably discharged. <i>c</i>
P34	Thomas A. W. Shock	34.95	36.72	30.00	30.00	8.10	9.60	149.37	514.96	664.33	Honorably discharged. <i>c</i>
35	William H. Ledbetter	38.10	28.32	30.00	30.60	9.60	9.54	146.16	512.10	658.26	Honorably discharged. <i>c</i>
36	William J. Wilson	24.30	33.72	22.44	36.36	13.50	9.90	140.32	510.81	651.13	Honorably discharged. <i>c</i>
P37	George M. von Schrader	35.55	25.32	25.08	30.00	12.60	7.89	136.44	514.65	651.09	Honorably discharged. <i>c</i>
38	Philip J. Ryan	39.15	22.80	30.96	30.00	16.20	8.40	147.51	499.18	646.69	Honorably discharged. <i>c</i>
39	Alexander B. Legaré	28.50	33.24	22.32	30.96	11.40	9.30	135.72	503.80	639.52	Honorably discharged. <i>c</i>
40	Willie T. Gray	32.40	22.20	20.40	37.56	11.70	8.70	132.96	500.39	633.35	Honorably discharged. <i>c</i>
§	Eustace S. Glascock	32.55	24.48	25.20	33.36	15.60	6.69	137.88	493.65	631.53	Resigned.
	Sydney Z. Mitchell <i>e</i>	53.10	42.00	30.84	33.60	20.70	9.45	189.69	553.85	743.54	Honorably discharged. <i>c</i>
	Thomas H. Gignilliat <i>e</i>	41.70	42.00	33.84	30.00	17.70	9.09	174.33	552.49	736.82	Honorably discharged. <i>c</i>

c In accordance with an act of Congress dated August 5, 1882.

e Eyes injured in line of duty; by advice of medical officer, did not attempt written examination; examined orally and given certificate of graduation; waived class number.

Merit-roll of the first class (37 members) at the annual examination, June, 1885.

Order of general merit.	NAME.	Astronomy, navigation, and surveying.	Least squares, and strength of materials.	Ordnance, and gunnery.	Ship building.	Seamanship, and naval tactics.	Practical instruction in steam-engineering.	Conduct.	Aggregate for fourth year.	Aggregate for third year.	Aggregate for second year.	Aggregate for first year.	General aggregate for four years.
		80	20	80	24	72	2	20	304	228	152	76	760
	Maxima												
*1	David W. Taylor <i>a</i>	76.60	19.80	78.00	22.02	66.06	7.02	18.67	2388.17	222.14	144.40	72.36	727.07
*2	William McKay	75.80	18.15	76.00	21.48	63.90	6.68	19.87	2381.88	214.20	143.71	67.84	707.63
*3	John G. Tavrescy <i>a</i>	73.80	18.95	73.00	22.20	66.96	7.06	19.87	2282.24	209.70	134.43	66.18	692.55
*4	Albert C. Diefenbach <i>a</i>	71.40	18.30	73.20	20.34	61.56	7.16	18.67	2270.63	209.66	140.33	67.91	688.53
*5	Theodore C. Fenton <i>a</i>	72.40	17.20	73.40	20.52	65.34	7.02	19.87	2275.75	204.56	135.21	63.67	679.19
*6	Volney O. Chase <i>a</i>	72.00	16.75	69.00	20.04	61.38	6.90	18.13	2264.20	200.82	125.13	65.66	655.81
7	William G. Miller <i>b</i>	66.60	14.50	63.80	20.10	60.48	6.36	18.40	250.24	192.82	129.98	61.84	634.88
8	George R. Slocum <i>b</i>	66.40	16.10	64.20	19.86	59.04	6.56	19.47	251.63	183.60	128.66	64.35	628.24
9	George W. Kline <i>b</i>	69.40	15.60	67.60	19.08	60.12	6.90	18.80	257.50	187.19	124.43	57.08	626.20
10	James W. Kittrell <i>b</i>	70.40	16.70	69.40	20.10	62.28	6.56	18.53	2263.97	182.05	117.30	61.69	625.01
11	Walker W. Joynes <i>b</i>	66.00	13.30	62.60	19.38	63.00	6.22	19.73	250.23	177.54	127.28	64.20	619.25
12	Alexander Thompson <i>b</i>	64.60	15.05	65.60	18.60	57.06	6.28	19.20	246.39	184.92	113.27	61.59	606.17
13	Charles S. Stanworth <i>b</i>	67.60	17.00	65.20	18.90	54.00	6.34	16.93	245.97	179.16	119.57	59.03	603.73
14	Joseph Strauss <i>b</i>	62.00	15.50	65.60	17.76	53.64	6.80	18.27	239.57	177.64	118.74	58.29	594.24
15	Harrison A. Bispham <i>b</i>	61.20	13.95	60.20	19.20	59.04	6.88	20.07	240.47	163.32	122.95	61.13	593.87
16	John P. McGuinness <i>b</i>	61.80	14.05	61.80	17.94	57.24	6.68	18.53	238.04	177.04	115.88	60.39	591.35
17	Robert L. Russell <i>b</i>	67.60	14.25	58.60	17.34	56.52	6.04	18.80	239.15	167.39	120.11	64.64	591.29
18	Benjamin M. Lombard <i>b</i>	70.20	17.65	69.80	20.04	50.40	6.06	17.20	251.35	167.07	111.42	59.80	590.22
19	Armistead Rust <i>b</i>	55.20	13.90	55.00	17.58	54.18	6.48	19.60	221.94	175.07	119.52	63.85	580.38
20	David S. Nesb	61.00	13.95	58.40	19.68	59.22	7.04	16.40	235.69	168.96	113.72	55.29	573.66
21	Edward W. Eberle <i>b</i>	63.00	14.15	61.40	18.36	60.48	6.12	19.33	242.84	158.13	114.11	57.81	572.89

a Completed four-years' course "with distinction." *b* Completed four-years' course "with credit." *c* Received 85 per cent. of multiple for the first-class year.

Merit-roll of the first class (37 members) at the annual examination, June, 1885—Continued.

Order of general merit.	NAME.	Astronomy, navigation, and surveying.	Least squares, and strength of materials.	Ordnance, and gunnery.	Ship-building.	Seamanship, and naval tactics.	Practical instruction in steam engineering.	Conduct.	Aggregate for fourth year.	Aggregate for third year.	Aggregate for second year.	Aggregate for first year.	General aggregate for four years.
		80	20	80	24	72	8	20	304	228	152	76	760
22	Maxima												
23	Thomas B. Slade <i>b</i>	58.40	14.35	57.20	17.22	54.54	6.60	18.40	226.71	170.72	113.82	57.23	568.48
24	William W. Gilmer <i>b</i>	57.20	13.55	58.60	19.98	61.38	6.58	20.00	237.29	158.08	110.11	62.13	567.61
25	James E. Shindel <i>b</i>	66.00	15.70	62.00	18.78	56.88	6.18	19.60	245.14	183.80	108.25	60.32	567.51
26	Charles M. McCormick <i>b</i>	60.80	14.45	60.80	18.66	58.86	6.34	18.13	238.04	160.99	105.47	58.02	562.52
27	Glennie Tarbox	59.60	14.90	63.40	19.56	63.18	6.44	12.93	240.01	152.72	110.27	54.88	557.88
28	George R. Evans	63.20	12.85	60.00	16.44	51.84	6.78	15.20	226.31	165.50	110.31	54.88	557.00
29	Robert E. Coontz	60.80	12.95	60.60	16.74	52.92	6.18	19.60	229.79	156.56	110.80	58.09	555.24
30	Charles C. Poe	60.40	13.40	57.20	18.36	52.20	6.12	13.20	220.88	152.62	113.15	62.80	549.45
31	Benjamin Wright	59.20	13.90	61.60	16.74	55.80	5.94	18.27	231.45	154.59	103.98	55.26	545.28
32	Albert Burnstine	56.60	12.50	56.80	17.34	51.84	5.44	12.27	212.79	151.36	105.53	58.57	528.25
33	Arthur H. Dutton	55.40	12.80	54.80	15.06	52.38	6.16	18.27	214.87	148.06	107.51	57.42	527.86
34	Charles M. Corpening	56.60	14.00	55.60	16.62	54.36	5.48	16.53	219.19	148.12	105.19	55.10	527.60
35	James T. Bootes	55.00	12.60	53.20	17.34	55.08	6.38	16.40	216.00	148.22	97.49	53.50	515.21
36	Samuel E. Pinner	53.20	12.75	56.20	16.38	51.12	6.54	14.67	210.86	148.77	100.47	54.01	514.11
37	Robert E. Howell	57.20	13.85	53.80	17.38	50.22	5.46	12.27	210.38	146.87	100.79	52.91	510.95
38	Preston H. Uberroth	50.80	13.30	48.60	15.90	47.34	6.22	11.33	193.49	146.76	103.57	53.74	497.56

b Completed four-years' course "with credit."

Merit-roll of the second class (25 members) at the annual examination, June, 1885.

Order of annual merit.	NAME.	Mechanical drawing.	International law.	Calculus, and mechanics.	Sound, light, and heat.	Electricity and magnetism.	Steam machinery, marine engines, and boilers.	Conduct.	Aggregate.
	Maxima . . .	16	16	56	28	28	72	12	228
*1	Frederick N. Kress . . .	15.20	14.52	48.02	24.08	23.45	63.54	8.94	197.75
*2	George Breed . . .	12.68	12.96	50.54	23.59	24.36	61.56	10.38	196.07
3	Friend W. Jenkins . . .	13.00	13.64	44.52	23.52	23.10	56.52	8.84	183.14
4	William H. G. Bullard . .	14.40	14.16	40.74	21.77	20.16	58.14	10.98	180.35
5	Joseph W. Oman . . .	13.60	12.60	37.10	23.03	21.07	59.76	11.40	178.56
6	Webster A. Edgar . . .	14.68	12.56	39.48	21.63	20.37	58.50	11.28	178.50
7	William H. Foust . . .	15.28	13.28	37.66	21.98	20.23	58.50	9.78	176.71
8	William H. Caldwell . . .	14.00	13.04	41.58	20.51	19.74	55.62	9.30	173.79
9	Willard L. Dodd . . .	14.44	13.72	35.14	21.07	19.67	55.44	10.26	169.74
10	Harold K. Hines . . .	12.00	14.44	38.36	21.00	21.35	51.30	11.10	169.55
11	Philip Andrews . . .	12.00	13.96	40.32	19.95	19.25	53.10	10.14	168.72
12	Ryland D. Tisdale . . .	12.80	12.16	37.38	21.91	18.41	52.92	11.40	166.98
13	Samuel M. Strite . . .	11.72	10.64	39.62	19.67	21.98	54.90	7.80	166.33
14	Harry E. Rumsey . . .	11.84	11.56	35.14	21.56	21.00	54.36	9.42	164.88
15	George F. Hawk . . .	10.80	11.68	38.64	21.98	19.74	51.12	10.02	163.98
16	John N. Griswold . . .	10.72	11.88	37.66	21.84	20.09	53.82	5.10	161.11
17	Edward T. Witherspoon . .	11.16	14.56	36.40	20.37	19.11	48.42	9.84	159.86
18	George F. Cooper . . .	10.00	13.40	35.00	20.02	19.18	50.40	11.10	159.10
19	Edwin Van D. Johnson . .	11.28	11.72	38.08	20.37	18.76	51.30	6.30	157.81
20	John T. McMillan . . .	10.60	11.84	37.80	18.34	18.97	49.14	6.60	153.29
†	Francis A. Levis . . .	14.40	12.44	34.16	19.53	19.53	51.48	11.28	162.82
*†	Samuel B. Winram . . .	13.88	10.68	34.58	17.99	17.64	50.76	9.84	155.37
†	Cornelius C. Billings . .	12.84	11.00	34.58	17.99	18.34	48.96	11.40	155.11
†	John G. Berry . . .	11.24	11.84	34.16	19.67	18.06	49.14	5.88	149.99
†	David M. Young . . .	11.04	11.64	34.30	18.83	18.41	47.16	5.40	146.78

Merit-roll of the third class (77 members) at the annual examination, June, 1885.

Order of annual merit.	NAME.	Trigonometry, analytical geometry, and descriptive geometry.	Chemistry.	English, history, and law.	French and Spanish.	Mechanical drawing.	Conduct.	Aggregate.
	Maxima	48	24	24	24	24	8	152
*1	Frank W. Hibbs	43.56	22.56	20.46	23.10	20.16	6.59	136.43
*2	Robert Stocker	45.12	18.66	19.20	20.58	22.02	6.82	132.40
*3	Elliot Snow	43.32	21.12	20.34	19.68	19.32	6.82	130.60
*4	Henry F. Bryan	41.88	19.02	21.42	23.04	18.24	6.14	129.74
5	Samuel R. Hurlbut	42.36	20.76	20.58	20.76	19.14	5.09	128.69
6	Levi C. Bertolette	41.04	20.58	19.44	22.02	18.30	7.14	128.52
7	Burton C. Decker	43.32	20.76	20.04	18.54	18.06	7.17	127.89
8	John J. C. Marriott	42.84	19.32	20.34	20.04	20.40	4.83	127.77
9	William S. Cloke	40.68	22.32	19.50	21.60	18.42	4.90	127.42
10	Walter S. Burke	41.52	20.70	18.30	17.82	21.54	7.49	127.37
11	Benjamin W. Wells, jr.	39.48	19.20	21.12	21.18	19.56	6.82	127.36
12	Newton A. McCully	40.08	17.52	19.38	20.76	20.22	7.10	125.06
13	Ben W. Stearns	42.12	16.80	20.04	19.62	18.66	6.72	123.96
14	Benjamin Steber	37.92	19.08	19.92	18.30	21.30	5.50	122.02
15	William G. McMillan	36.60	18.30	20.16	18.54	19.80	7.97	121.37
16	Edward H. Durell	36.96	19.26	19.74	21.42	17.64	5.89	120.91
17	George W. Logan	36.36	18.12	20.94	23.10	15.78	5.60	119.90
18	Mark L. Bristol	41.76	18.72	19.62	18.18	19.08	2.46	119.82
19	Andrew T. Long	39.36	18.18	19.80	19.02	15.90	7.14	119.40
20	Charles E. Johnston	34.08	19.56	18.90	21.36	18.00	7.23	119.13
21	Michael R. Pigott	32.28	20.76	20.10	21.48	19.56	4.61	118.79
22	Edward Moale	37.56	18.30	18.36	20.70	16.92	6.40	118.24
23	Norman J. Blackwood	33.72	16.74	19.74	21.42	19.86	6.62	118.10
24	Glen Waters	38.16	19.20	21.42	21.24	15.24	2.66	117.92
25	Thomas Washington	35.88	17.22	20.58	18.18	16.38	7.78	116.02
26	Henry L. Peckham	36.24	17.10	18.30	17.10	19.92	6.94	115.60
27	Herbert L. Draper	34.68	17.82	18.84	18.36	18.24	6.75	114.69
28	Eli K. Cole	34.32	17.70	19.44	17.64	17.88	6.91	113.89
29	Archibald H. Davis	34.32	17.16	19.26	18.78	17.28	6.30	113.10
30	Charles F. Cash	32.16	17.52	17.46	19.80	18.48	6.37	111.79
31	Samuel E. Darby	33.36	15.00	17.94	21.90	16.26	6.24	111.60
32	Clarence M. Stone	37.68	17.53	17.34	17.70	16.80	4.38	111.48
33	William H. Williams	30.96	15.78	19.92	20.52	16.32	7.78	111.28
34	Creighton Churchill	35.52	16.32	12.00	18.36	16.98	5.70	110.88
35	Frederick E. Swanstrom	35.16	15.30	18.90	17.70	18.24	5.38	110.68
36	Herbert L. Childs	32.16	16.32	19.62	21.36	15.42	5.73	110.61
37	James M. Bower	35.16	16.98	17.88	18.06	16.92	5.47	110.47
38	Samuel P. Edmonds	36.12	16.92	16.98	18.66	16.86	4.64	110.18
39	John A. Ubsdell	33.48	16.20	18.42	20.22	15.90	5.82	110.04

Merit-roll of the third class (77 members) at the annual examination, June, 1885—Continued.

Order of annual merit.	NAME.	Trigonometry, analytical geometry, and descriptive geometry.	Chemistry.	English, history, and law.	French and Spanish.	Mechanical drawing.	Conduct.	Aggregate.
	Maxima	48	24	24	24	24	8	152
40	Ford H. Brown	36.36	15.48	16.50	16.68	18.42	6.56	110.00
41	Francis Boughter	33.96	19.14	17.46	18.00	17.04	4.32	109.92
42	George W. Eyre	33.96	15.66	17.10	16.56	19.56	6.78	109.62
43	James G. Ballinger	34.32	17.16	17.94	17.52	17.10	5.31	109.35
44	Henry A. Allen	33.48	16.26	18.06	16.50	18.18	6.72	109.20
45	Guy H. Burrage	33.12	15.06	16.02	15.66	21.72	7.20	108.78
46	Ross Coleman	34.56	16.68	18.24	17.04	16.56	5.63	108.71
47	Richard H. Jackson	31.32	16.74	18.72	19.20	15.12	7.23	108.33
48	Archibald H. Scales	32.04	16.80	18.54	16.98	18.18	5.44	107.98
49	Victor Blue	32.04	16.20	18.24	17.94	15.72	7.65	107.79
50	Claude S. Cochran	33.60	16.26	17.34	16.08	17.22	6.40	106.90
51	Frank M. Russell	34.44	10.98	16.86	17.16	15.30	5.86	106.60
52	Joseph V. Ricketts	31.08	16.14	16.98	18.06	16.74	7.49	106.49
53	William B. Moseley	32.28	16.14	17.70	18.60	15.24	5.92	105.88
54	Henry L. Gueydan	34.68	13.36	15.78	22.38	15.78	1.73	105.71
55	James W. Sims	31.68	15.00	16.98	16.74	18.30	6.75	105.45
56	William S. La Tourrette	31.80	16.08	18.24	17.64	14.76	6.43	104.95
57	Colin S. Craig	32.52	16.44	17.40	17.28	15.42	5.82	104.88
58	Joseph J. Welsh	33.72	16.38	16.86	18.36	15.36	3.46	104.14
59	Charles C. Craig	30.36	15.00	17.46	18.24	16.26	6.56	103.88
60	Charles S. Hill	31.20	16.20	18.24	19.50	15.00	3.23	103.37
61	John J. Martin	33.48	15.06	17.28	16.14	15.30	6.08	103.34
62	William J. Murray	30.36	15.06	18.54	16.56	15.48	6.94	102.94
63	Thomas S. Jewett	31.20	15.78	17.88	16.92	15.66	4.22	101.66
P 64	Walter R. Allen	32.64	15.96	17.40	16.14	15.72	3.55	101.41
65	Henry A. Wiley <i>b</i>	31.20	15.72	16.80	17.64	14.88	4.29	100.53
66	Henry C. Rodgers	30.24	15.12	17.46	16.32	15.30	4.77	99.21
67	Thomas M. O'Halloran	31.56	15.18	17.10	16.68	15.24	3.07	98.83
68	William P. Eyre	31.20	15.30	17.10	16.44	16.32	2.24	98.60
69	Fred. G. Moore	30.72	15.42	15.24	15.36	15.66	4.00	96.40
70	John S. Carnahan	31.08	15.60	14.52	15.24	16.14	2.46	95.04
†	Lewis A. Kalbach	31.08	14.52	18.00	18.78	17.34	7.71	107.43
	Jasper C. Salter <i>a</i>	30.72	13.92	18.72	17.46	16.38	6.62	103.82
†	Charles E. Hudson	29.16	15.06	16.56	16.26	15.78	6.11	98.93
§	Morris P. Bachman	28.68	13.86	16.56	16.98	14.64	6.59	97.31
†	Louis C. S. Young	29.40	14.76	15.84	16.56	15.42	3.17	95.15
††	August A. Straub	30.00	14.70	15.18	16.38	15.48	0.19	91.93
§	William R. Wilmer	28.44	12.42	14.58	15.54	15.90	4.35	91.23

a Found deficient, allowed a re-examination, dropped as being physically disqualified for the naval service.

b Dismissed for hazing.

Merit-roll of the fourth class (68 members) at the annual examination, June, 1885.

Order of annual merit.	NAME.	English and his- tory.	Algebra and ge- ometry.	French and Spanish.	Conduct.	Aggregate.
	Maxima	24	24	24	4	76
*1	Frank Marble	21.30	22.80	22.44	3.41	69.95
*2	Marcus L. Miller	20.04	20.82	22.08	3.68	66.62
*3	John A. Lejeune	21.60	18.78	23.28	2.51	66.17
*4	George N. Hayward	20.46	20.40	22.26	2.57	65.69
*5	William N. Vansant	21.06	21.54	19.20	3.48	65.28
*6	John F. Hubbard	21.00	20.58	20.64	3.03	65.25
*7	Aimin Hartrath	22.14	16.86	23.58	2.49	65.07
8	Delworth W. Beswick	19.20	19.80	21.12	3.85	63.97
9	William C. Van Antwerp	20.34	19.50	20.94	2.53	63.31
10	Casey B. Morgan	20.64	20.16	18.48	3.56	62.84
11	William M. Crose	20.34	20.04	18.84	3.37	62.59
12	Clarence L. A. Ingate	19.02	18.90	21.00	3.52	62.44
13	Robert C. Hull	19.62	20.70	20.94	1.16	62.42
14	Moses D. Monroe	20.04	19.98	19.02	2.52	61.56
15	Ashley H. Robertson	18.72	20.94	18.36	3.31	61.33
16	Curtis D. Wilbur	19.98	19.98	17.52	3.79	61.27
17	Oscar W. Koester	18.24	19.38	20.52	3.09	61.23
18	Henry K. Benham	17.94	21.06	18.96	3.19	61.15
19	Carlo B. Brittain	19.92	18.66	19.26	3.12	60.96
20	William P. Baya	18.24	19.56	19.20	3.79	60.79
21	Hermann D. Lange	18.78	16.44	22.20	3.08	60.50
22	Joseph R. Morris	20.04	17.34	19.74	3.24	60.36
23	George Loyall	16.98	18.48	21.78	2.85	60.09
24	Albert L. Norton	20.64	17.40	17.94	3.69	59.87
25	Louis J. Anderson	20.28	18.42	17.76	2.88	59.34
26	William T. Gillespie	17.64	20.16	19.38	2.07	59.25
27	Alfred N. Hill	18.60	16.56	20.22	3.56	58.94
28	Samuel S. Robison	18.78	16.86	19.08	3.20	57.92
29	Willie McD. Rowan	18.36	15.42	20.22	3.65	57.65
30	George S. Selfridge	18.66	15.42	20.22	3.11	57.41
31	Ignatius I. Murphy	18.42	16.14	19.62	3.05	57.23
32	Edward L. Beach	18.36	17.82	17.52	3.51	57.21
33	Leroy A. Stafford	16.68	16.86	20.58	3.09	57.21
34	George W. Fitzgerald	17.28	18.18	18.78	2.75	56.99
35	Archie P. Campbell	17.88	16.38	19.14	3.52	56.92
36	Herbert G. Gates	18.18	16.86	18.66	2.67	56.37
37	Hiram B. Close	15.48	21.06	16.62	3.20	56.36
38	Frederic B. Bassett, jr.	18.18	16.62	18.48	2.80	56.08
38	William B. Franklin	17.52	17.64	17.52	3.40	56.08
40	Lloyd H. Chandler	17.52	15.54	19.56	3.35	55.97
41	Herman O. Stickney	17.58	15.96	18.66	3.52	55.72
42	James H. Reid	16.68	17.40	17.40	3.85	55.33
43	George W. Williams	18.18	16.44	17.76	2.92	55.30
44	Stuart W. Cramer	18.36	15.60	17.70	3.51	55.17
45	Samuel J. Aiken	17.04	17.40	16.86	3.85	55.15
46	Ernest E. West	16.26	18.30	17.28	3.20	55.04
47	Paul C. Shaffer	17.88	15.90	17.40	3.73	54.91
48	Edward E. Clement	17.76	15.48	17.82	3.15	54.21

Merit-roll of the fourth class (68 members) at the annual examination, June, 1885—Continued.

Order of annual merit.	NAME.	English and history.	Algebra and geometry.	French and Spanish.	Conduct.	Aggregate.
	Maxima	24	24	24	4	76
49	William H. Gould	17.34	15.72	17.52	2.59	53.17
50	George C. W. Bischof	17.10	15.00	17.10	3.79	52.99
51	Charles F. Hughes	17.82	15.96	15.54	3.44	52.76
52	Claude H. Kinnear	15.36	15.48	18.12	3.73	52.69
53	James N. Alexander	15.36	17.10	16.38	3.51	52.35
54	Henry Taylor, jr.	16.14	15.06	18.06	2.73	51.99
55	Chester B. Williams	17.58	15.66	15.00	3.64	51.88
56	Louis Mowbray	17.52	15.06	15.96	2.92	51.46
57	Theodore P. Kane	15.54	15.66	17.34	2.85	51.39
58	Nathan W. Hicks	17.04	15.18	16.02	2.87	51.11
59	Ralph Bailey	15.84	16.38	15.30	3.49	51.01
60	William D. Kochersperger	15.72	16.86	18.06	0.28	50.92
61	Frederic Fitch	15.60	16.44	17.16	1.16	50.36
62	Edmund P. Melson	15.24	15.06	15.06	3.16	48.52
63	Edwin R. Quinby	15.66	15.60	16.56	0.00	47.82
††	Godfrey L. Carden	18.18	14.88	17.16	3.64	53.86
	Ernest F. Smith <i>e</i>	16.50	14.88	15.36	3.61	50.35
	Constantine D. Tntine <i>e</i>	16.02	14.82	17.04	1.00	48.88
††	Jeptha V. Harris	15.72	14.40	15.06	2.65	47.83
††	Franklin E. Fairfax	16.68	8.40	10.62	3.79	39.49

e Deficient; allowed a re-examination; resigned.

REGULATIONS

GOVERNING

THE ADMISSION OF CANDIDATES INTO THE NAVAL ACADEMY AS NAVAL CADETS.

NOMINATIONS.

I. The students at the Naval Academy shall be styled *Naval Cadets*.—(*Rev. Stat.*, § 1512, and act of Congress approved August 5, 1882.)

II. There shall be allowed at said Academy one Naval Cadet for every Member or Delegate of the House of Representatives, one for the District of Columbia, and ten at large.—(*Rev. Stat.*, § 1513, and act of Congress approved June 17, 1878.)

III. The course of Naval Cadets is six years.—(*Rev. Stat.*, § 1520.)

IV. Appointments to fill all vacancies that may occur during a year in the lower grades of the Line and Engineer Corps of the Navy and of the Marine Corps will be made from the Naval Cadets, graduates of the year, at the conclusion of their six years' course, in the order of merit as determined by the Academic Board of the Naval Academy. *At least ten appointments from such graduates will be made each year. Surplus graduates who do not receive such appointments will be given a certificate of graduation, an honorable discharge, and one year's sea pay, as provided for Naval Cadets.*—(*Act of Congress approved August 5, 1882.*)

V. "The Secretary of the Navy shall, as soon after the fifth of March in each year as possible, notify, in writing, each Member and Delegate of the House of Representatives of any vacancy that may exist in his district. The nomination of a candidate to fill said vacancy shall be made upon the recommendation of the Member or Delegate, if such recommendation is made by the first day of July of that year; but, if it is not made by that time, the Secretary of the Navy shall fill the vacancy. The candidate allowed for the District of Columbia, and all the candidates appointed at large shall be selected by the President."—(*Rev. Stat.*, § 1514.)

VI. "Candidates allowed for Congressional districts, for Territories, and for the District of Columbia must be actual residents of the districts or Territories, respectively, from which they are nominated. *And all candidates must, at the time of their examination for admission, be between the ages of fourteen and eighteen years, and physically sound, well-formed, and of robust constitution.*"—(*Rev. Stat.*, § 1517.)

VII. Candidates who may be nominated in time to enable them to reach the Academy by the fifteenth of May will receive permission to present themselves on that date to the Superintendent for examination for admission. Those who may not be nominated in time to present themselves at the May examination will be examined on the first of September following.

When either of the above dates shall fall on Sunday the candidates shall present themselves on the Monday following.

Candidates will be required to enter the Academy immediately after passing the prescribed examinations.

Leave is not granted to cadets of the fourth class.

EXAMINATION.

VIII. "*All candidates for admission into the Academy shall be examined according to such regulations and at such stated times as the Secretary of the Navy may prescribe. Candidates rejected at such examination shall not have the privilege of another examination for admission to the same class unless recommended by the Board of Examiners.*"—(Rev. Stat., § 1515.)

IX. "When any candidate who has been nominated upon the recommendation of a Member or Delegate of the House of Representatives is found, upon examination, to be physically or mentally disqualified for admission, the Member or Delegate shall be notified to recommend another candidate, who shall be examined according to the provisions of the preceding section."—(Rev. Stat., § 1516.)

X. Candidates will be examined physically by a board composed of three medical officers of the Navy; any one of the following conditions will be sufficient to cause the rejection of a candidate; viz.,

- Feeble constitution, inherited or acquired;
- Retarded development;
- Impaired general health;
- Decided cachexia, diathesis, or predisposition;
- All chronic diseases or results of injuries that would impair efficiency; viz.,
- Weak or disordered intellect;
- Cutaneous or communicable diseases;
- Unnatural curvature of spine, torticollis, or other deformity;
- Inefficiency of either of the extremities or large articulations from any cause;
- Epilepsy or other convulsions within five years;
- Impaired vision, chronic disease of the organs of vision, imperfect color sense; (visual acuteness must not fall below eleven-twentieths of the normal in either eye;)
- Impaired hearing or chronic diseases of the ears;
- Chronic nasal catarrh, ozæna, polypi, or great enlargement of the tonsils;
- Impediments of speech to such an extent as to impair efficiency in the performance of duty;
- Disease of heart or lungs or decided indications of liability to cardiac or pulmonary affections;
- Hernia or retention of testes in inguinal canal;
- Sarcocoele, hydrocele, stricture, fistula, or hemorrhoids;
- Large varicose veins of lower limbs, scrotum, or cord;
- Disease of the urinary organs;
- Chronic ulcers.

Attention will also be paid to the stature of the candidate, and no one manifestly under size for his age will be received at the Academy. In the case of doubt about the physical condition of the candidate, any marked deviation from the usual standard of height or weight will add materially to the consideration for rejection. Five feet will be the minimum height for the candidate.

XI. Candidates will be examined mentally by the Academic Board in reading, writing, spelling, arithmetic, geography, English grammar, history, and algebra. All the examinations, except in reading, will be written. Deficiency in any one of these subjects will be sufficient to insure the rejection of a candidate.

GENERAL CHARACTER OF THE EXAMINATION.

READING.—In *Reading*, candidates must be able to read understandingly, and with proper accent and emphasis.

WRITING AND ORTHOGRAPHY.—In *Writing and Orthography*, they must be able to

write, from dictation, sentences from standard pieces of English literature, both prose and poetry, sufficient in number to test their qualifications both in handwriting and orthography.

XII. ARITHMETIC.—The candidate will be required—

To express in figures any whole, decimal, or mixed number; to write in words any given number; to perform with facility and accuracy the various operations of addition, subtraction, multiplication, and division of whole numbers whether abstract or compound, and to use with facility the tables of money, weight, and measures in common use, including English money.

To reduce compound numbers from one denomination to another, and to express them as decimals, or fractions of a higher or lower denomination; to state the number of cubic inches in a gallon and the relation between the Troy and Avoirdupois pounds and to reduce differences of time to differences of longitude and *vice versa*.

To define prime and composite numbers; to give the tests of divisibility by 3, 5, 7, 9, 11, 25, and 125; to resolve numbers into their prime factors, and to find the least common multiple and the greatest common divisor of large as well as of small numbers.

To be familiar with all the processes of common and decimal fractions, and to give clearly the reasons for such processes, and to be able to use the contracted methods of multiplication and division given in the ordinary text-books on Arithmetic.

To define ratio and proportion, and to solve problems in simple and compound proportion.

To solve problems involving the measurement of rectangular surfaces and of solids, to find the square and cube roots of numbers, and to solve simple problems under percentage, interest, and discount.

The candidates are required to possess such a thorough understanding of all the fundamental operations of Arithmetic as will enable them to apply the various principles to the solution of any complex problem which can be solved by the methods of Arithmetic; in other words, they must possess such a complete knowledge of Arithmetic as will enable them to proceed at once to the higher branches of Mathematics without further study of Arithmetic.

ALGEBRA.—The examination in *Algebra* will be elementary in character, and will be limited to questions and problems upon the fundamental rules, factoring, algebraic fractions, and simple equations of one or more unknown quantities; the questions will be drawn entirely from Ray's Higher Algebra, pages 11 to 111.

GRAMMAR.—In *English Grammar* candidates must exhibit a familiarity with all the parts of speech and the rules in relation thereto; must be able to parse any ordinary sentence given to them, and generally must understand those portions of the subject usually taught and comprehended under the heads of Orthography, Etymology, and Syntax.

The questions will usually be arranged in three divisions. The first division will contain questions somewhat like these: •

Explain the uses of the objective case. What verbs have distinction of voice? Give the possessive plural of sea, valley, basis, stratum, bandit.

The second division will contain one or more sentences to be parsed, *e. g.*:

"They were always a strange family; they rarely acted like other people; their hearts were in the right place, but their heads always seemed to be doing anything but what they ought." Such a sentence must be parsed *fully*, giving the part of speech, and kind, case, voice, mood, tense, number, person, degree of comparison, etc., as the case may be, of each word, and its relation to the other words, thus:

Strange is a descriptive adjective, positive degree. It qualifies the noun family.

Comparative, *stranger*.

Superlative, *strangest*.

Acted, an intransitive verb, regular (or weak) in conjugation, indicative mood, past tense, third person, plural number. Its subject is *they*.

The third division will contain a large number of incorrect sentences to be corrected thus :

My brother lives most all of nine miles from Topeka ; it's sort of lonesome out there, and I reckon he don't like it much. You see it's considerable of a ways to go, but I'd as lives go as not. Among these, correct sentences will sometimes be introduced to more thoroughly test the knowledge of the candidate.

Since the school grammars used in different parts of the country vary among themselves in their treatment of certain words, an answer indorsed by any grammar of good repute will be accepted.

GEOGRAPHY.—Candidates will be required to pass a satisfactory examination, written or oral, or both, in descriptive geography, particularly of our own country. Questions will be given under the following heads: The definition of latitude and longitude; the zones; the grand divisions of the land and water; the character of coast-lines; the direction and position of important mountain-chains and the locality of the higher peaks; the position and course of the principal rivers, their tributaries, and the bodies of water into which they empty; the position of important seas, bays, gulfs, and arms of the sea; the position of independent states, their boundaries and capital cities; the position and direction of great peninsulas and the situation of important and prominent capes, straits, sounds, channels, and the most important canals; great lakes and inland seas; position and political connection of important islands and colonial possessions; locality of cities of historical, political, or commercial importance; (attention is especially called to the rivers and bodies of water on which cities are situated;) the course of a vessel in making a voyage between well-known sea-ports.

The candidate's knowledge of the geography of the *United States* cannot be too full or specific on all the points referred to above. Accurate knowledge will also be required of the position of the country with reference to other States, and with reference to latitude and longitude; of the boundaries and relative position of the States and Territories, and of the name and position of their capitals, and of other important cities and towns.

HISTORY.—Candidates should be familiar with so much of the history of the United States as is contained in the ordinary school histories.

The examination will be either written or oral, or both, and questions of the same general character as the following will be given :

1. Name the earliest European settlements within the present limits of the United States, and fix their position. When and by whom were these settlements made?
2. Explain the three forms of government in the colonies: royal, proprietary, and charter. Name the colonies that originally existed within the present limits of Massachusetts; of Connecticut. When were those colonies united? What did the colony of Pennsylvania include? When was it divided?
3. State the leading events of the colonial wars, and give the results of each war.
4. What were the remote and immediate causes of the Revolution? Explain the navigation acts, the stamp act, writs of assistance. Name the principal battles and other leading events in the wars of the United States, giving the names of commanding officers and stating the results of the battles.
5. Give an account of the formation and adoption of the Constitution.
6. Give the names of the Presidents, in order, and the leading events in each administration.

ADMISSION.

XIII. Candidates who pass the physical and mental examinations will receive appointments as Naval Cadets, and become inmates of the Academy. Each Cadet will be required to sign articles by which he binds himself to serve in the United States Navy eight years (including his time of probation at the Naval Academy), unless sooner discharged. The pay of a Naval Cadet is \$500 a year, commencing at the date of his admission.

XIV. Cadets, immediately after their admission, will supply themselves with the following articles; viz.,

One parade suit	\$31 50	One pair gymnasium slippers	\$0 92
One undress suit	18 75	Three woolen shirts	5 37
Two working suits	2 20	*Six pairs of drawers	4 50
One overcoat	22 00	*Twelve white handkerchiefs	3 00
One rubber coat	3 68	*Eight towels	2 00
One pair of rubber leggins	90	Two pairs of drill gloves	1 50
Two pairs of white duck leggins	1 84	Three pairs of white thread gloves	81
One rubber hat	53	*One pair of suspenders	38
One parade cap	2 81	Two black silk neck-ties	72
One undress cap	1 45	Two clothes-bags	50
*One whisk	13	One hair mattress	6 66
*One coarse comb	11	One straw mattress	1 32
*One fine comb	33	Two pairs of high shoes	11 50
One mug	10	One pair of overshoes	1 60
*One cake of soap	10	*Eight white shirts	8 00
One soap-box	62	*Four nightshirts	3 00
One requisition-book	42	*Six undershirts	4 50
One laundry-book	36	Twelve linen collars	1 68
*Twelve pairs of socks	3 00	Eight pairs of cuffs	2 00
Four pairs white trousers	14 00	Six pillow-cases	1 00
One white cap	1 50	*One tooth-brush	21
*One hair-brush	69	One looking-glass	95
One hair pillow	93	One slop-jar	1 19
One pair of blankets	4 00	One broom	27
Two bedspreads	2 20	Two spatter-cloths	1 10
Six sheets	3 60	One oil-cloth	63
One pass-book	50	One jack-knife	53
One stencil, ink, and brush	45	One paper-weight	45
One bottle of indelible ink	18		
One rug	1 55		
One wash-basin and pitcher	96		
		Total	187 68

The articles marked *, not being required to conform to a standard pattern, may be brought by the Cadet from home, but all other articles must conform to the regulations and must, therefore, be supplied by the storekeeper.

Each Naval Cadet must, on admission, deposit with the paymaster the sum of \$20, for which he will be credited on the books of that officer, to be expended, by direction of the Superintendent, in the purchase of text-books and other authorized articles besides those enumerated in the preceding article.

All the deposits for clothing and the entrance-deposit of \$20 must be made before a candidate can be received into the Academy.

SUMMARY OF EXPENSES.

Deposit for clothing	\$187 68
Deposit for books, &c.	20 00
Total deposit required	207 68

The value of clothing brought from home is to be deducted from this amount.

Each Naval Cadet, *one month after admission*, will be credited with the amount of his actual expenses in traveling from his home to the Academy.

XV. A Naval Cadet who voluntarily resigns his appointment within a year of the time of his admission to the Academy will be required to refund the amount paid him for traveling expenses.

COURSE OF INSTRUCTION.

[Reference Books are marked thus (*).]

FIRST YEAR—FOURTH CLASS.

FIRST TERM.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Mathematics.</i>	4	4	ALGEBRA: Fundamental operations; reduction and conversion of fractional and surd quantities; reduction and solution of equations of the first and second degrees; inequalities; involution and evolution.	Ray's Higher Algebra. Todhunter's Algebra.*
	2	4	GEOMETRY: Geometry of the straight line, of the circle, and of the plane; theory of proportion; properties of similar figures.	Chauvenet's Geometry.
<i>English Studies, History, and Law.</i>	2	4	ENGLISH: The structure and historical development of the English language; punctuation and capitals; exercises in the composition of letters.	Lounsbury's History of the English Language. Hart's Punctuation. Webster's Dictionary.*
	3	4	HISTORY: Outlines of history, especially the history of Greece and Rome, and of the states of Western Europe down to 1880; historical geography; important points in naval history, by notes or lectures.	Freeman's General Sketch of History. Labberton's Historical Atlas.*
<i>Modern Languages.</i>	5	4	FRENCH: The Robertsonian system; reading and translating "Le Conscriit;" conjugation of verbs.	Robertson's Whole French Language. Le Conscriit de 1813. Bellows's Pocket Dictionary.*

FIRST YEAR—FOURTH CLASS—Continued.

SECOND TERM.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Mathematics.</i>	2	4	ALGEBRA: Course for first term continued. Development of algebraic functions by means of indeterminate coefficients and the binomial theorem; permutations and combinations; summation of series; continued fractions; logarithms; exponential equations; theory of equations, including the solution of numerical equations.	Ray's Higher Algebra. Todhunter's Algebra.* Bowditch's Useful Tables.*
	3	4	GEOMETRY: Course for first term continued. Spherical geometry; the cone and the cylinder; mensuration of rectilinear figures, and of the sphere, cone, and cylinder; application of algebra to determinate geometry.	Chauvenet's Geometry.
<i>English Studies, History, and Law.</i>	2	4	ENGLISH: Rhetoric and composition; choice and use of words; kinds of composition; narration and description; argumentative composition; exercises in the composition of letters and telegrams. Themes.	A. S. Hill's Rhetoric.
	3	4	HISTORY: Progress of colonial development in America, and the history of the United States; important points in the naval history of the United States, by notes or lectures.	Eliot's History of the United States. Mitchell's Atlas.*
<i>Modern Languages.</i>	†5½	4	FRENCH: Course of first term continued. Friday evenings and Saturday mornings devoted to exercises in dictation, and to practice in speaking French.	Robertson's Whole French Language. Le Conscriit de 1813. Bellows's Pocket Dictionary.*
	2	4	SPANISH: The Robertsonian system. [Given as an advanced course.]	Robertson's Spanish Course.

†Saturday morning period.

SECOND YEAR—THIRD CLASS.

FIRST TERM.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Mathematics.</i>	1	4	DESCRIPTIVE GEOMETRY: Orthographic projections; representation of points, lines, and planes; problems relating to the right line and the plane; representations of surfaces of the second order.	Church's Descriptive Geometry.
	4	4	TRIGONOMETRY: Measures of arcs and angles; trigonometric functions; analytical investigation of trigonometric formulas, with their application to all the cases of plane and spherical triangles; construction and use of trigonometric tables; inverse trigonometric functions; De Moivre's theorem; solution of trigonometric equations; practical applications of trigonometry to the solution of plane and spherical triangles, the astronomical triangle, and the measurements of heights and distances.	Chauvenet's Trigonometry; Todhunter's Trigonometry. Bowditch's Useful Tables.*
<i>English Studies, History, and Law.</i>	3	1	ENGLISH: Classification of words; definition of words by usage and by derivation; synonyms; laws of change in the meaning of words; faults in diction and their remedies; selection and arrangement; elementary principles of reasoning; principles of composition; exercises in the composition of official dispatches, letters, and telegrams. Themes.	Abbott and Seeley's English Lessons for English People; Abbott's How to Write Clearly.
	2	3		Ayres's Orthœpist.* Ayres's Verbalist.*
	2	1		The School Herald.
	1	3	HISTORY: Contemporary history, including the comparative study of governments, institutions, and political geography.	Martin's Statesman's Year Book.* Mitchell's Atlas.*
	2	3	LAW: Constitution of the United States.	Andrews's Manual of the Constitution.
<i>Modern Languages.</i>	5	4	FRENCH: Reading and translating French comedy; written translations from English into French; themes.	Bôcher's Series of French Plays. Robertson's Whole French Language.* Keetels's Grammar.* Bel lows's Dictionary.*
	1	4	SPANISH: The Robertsonian system; nautical terms and phrases, and conversations thereon. [Given as an advanced course.]	La Colmena Española. Robertson's Spanish Course.
<i>Mechanical Drawing.</i>	1	4	MECHANICAL DRAWING: The use of instruments; preliminary construction of rectilinear and curved figures to scale; inking in; drawing section lines.	Tomkin's Machine Construction and Drawing.*

SECOND YEAR—THIRD CLASS—Continued.

SECOND TERM.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Mathematics.</i>	1	4	DESCRIPTIVE GEOMETRY: Course for first term continued. Warped surfaces, and surfaces of revolution; development of single-curved surfaces; intersection of surfaces; tangent lines and planes; projections of the sphere; axometric projections; shades and shadows.	Church's Descriptive Geometry.
	4	4	ANALYTICAL GEOMETRY: Equations of the straight line and of the conic sections; transformation of co-ordinates; properties of the conic sections; equations to tangents and normals; determination of loci; discussion of the general equation of the second degree; equations of the plane, of lines in space, and of surfaces of the second order; the principal properties of surfaces of the second order; discussion of the general equation of the second degree in three variables.	C. Smith's Conic Sections; Aldis's Solid Geometry.
<i>Physics and Chemistry.</i>	5	4	PHYSICS: Force and motion; gravitation and molecular attraction; hydrostatics; pneumatics. CHEMISTRY: Aim and scope of chemistry; the atmosphere; oxygen, nitrogen, water, and hydrogen; nitric and chlorhydric acids; acids, bases, and salts; the chlorine group; sulphur and phosphorus, and their compounds; Laws of Avogadro, Charles, and Mariotte; formulas; basicity; notation and nomenclature; arsenic, antimony, and bismuth; combustion; carbon and its compounds; boron and silicon; the alkali group; the calcium group; magnesium and zinc; the sesquioxide group; copper, mercury, and tin; gold and platinum; atomic weights. Practical work in the chemical laboratory. Lectures.	Ganot's Physics. Eliot and Storer's Manual of Chemistry. Lecture notes.
<i>Mechanical Drawing.</i>	†5½	4	MECHANICAL DRAWING: Orthographic projections, sections, intersection of surfaces; isometrical drawing; perspective; drawing of screws, bolts, nuts, spur-gears, bevel-gears, and details of gun-carriages, engines, and machinery.	Tomkin's Machine Construction and Drawing.*

† Saturday morning period.

THIRD YEAR—SECOND CLASS.

FIRST TERM.

Department.	Number of recitations a week.	Number of months.	Subject.	Text-books.
<i>Steam Engineering.</i>	4	4	MARINE ENGINES AND BOILERS: Explanation of all the parts of an engine; types of engines; steam valves and other valves; generation of steam; distribution and expansion of steam; screw propellers and side wheels; the indicator and its diagrams; the power of an engine and computations relating to it; hydrometers; saturation; scale and its prevention; casualties; boilers; materials; combustion; transfer of heat; testing steam engines; the principles of mechanism.	Sennett's Marine Steam-Engine. Goodeve's Elements of Mechanism.
<i>Physics and Chemistry.</i>	5	4	SOUND, LIGHT, AND HEAT: Properties of sound; atmospheric and other vibrations; properties of light; optical instruments; double refraction; polarization; temperature, and its measurement by thermometers; dilatation of solids, liquids, and gases; liquefaction and solidification; production of vapor and its condensation; effect of heat upon other properties of matter; radiant heat and its reflection and radiation; theory of exchanges; conduction and convection; specific and latent heat; relation between heat and mechanical effect; thermodynamics. Lectures.	Ganot's Physics. Balfour Stewart's Elementary Treatise on Heat.
<i>Mechanics and Applied Mathematics.</i>	5	2	DIFFERENTIAL CALCULUS: Functions; rates; differentials of functions; indeterminate forms; series; maxima and minima; geometrical applications; functions of two or more variables.	Rice and Johnson's Differential Calculus.
	5	2	INTEGRAL CALCULUS: The methods of integration; definite integrals; quadrature of surfaces; cubiture of volumes; rectification of curves; centres of gravity; moments of inertia; planimeters; rules for the approximate determination of areas and volumes; differential equations.	Johnson's Integral Calculus, and Differential Equations.
<i>Mechanical Drawing.</i>	2	4	MECHANICAL DRAWING: Practice in drawing ordnance, ordnance accessories, and the various kinds of implements and machinery used in the naval service.	Tomkin's Machine Construction and Drawing.

THIRD YEAR—SECOND CLASS.

SECOND TERM.

Department.	Number of recitations a week.	Number of months.	Subject.	Text-books.
<i>Steam Engineering.</i>	13½	4	Course for first term continued.	
<i>Physics and Chemistry.</i>	5	4	ELECTRICITY AND MAGNETISM: Frictional electricity; magnetism; electrostatics; electromagnetics; measurement of currents; heat, light, and work from electric currents; thermoelectricity; induction currents; electrochemistry; telegraphs and telephones; electrical machines; potential; electrometers; theory of absolute measurement; specific inductive capacity; measurement of resistances; practical lessons with batteries; practical work with electrical and dynamo-machines; measurement of resistances; galvanometers; determination of dip and intensity; use of magnetometer; lectures on metallurgy and explosives; laboratory work with explosives; testing oils and paints.	Thompson's Electricity and Magnetism. Kemp's Hand-Book of Electrical Testing. Day's Exercises in Electrical Measurement. Day's Electric Light Arithmetic. Kohlrausch's Physical Measurements.*
<i>Mechanics and Applied Mathematics.</i>	5	4	MECHANICS: Kinematics; dynamics; kinetics; hydromechanics; the motion of projectiles; friction and other resistances; the application of mechanical principles to simple machines and to instruments.	Bowser's Analytical Mechanics. Besant's Hydromechanics.
<i>English Studies, History, and Law.</i>	2	4	INTERNATIONAL LAW: The rights and duties of states; the powers and duties of diplomatic envoys, consuls, and naval commanders; nationality, as to persons and as to vessels; jurisdiction over vessels at sea and in territorial waters; the relations of ships of war at sea and in foreign ports; fugitives and deserters; the laws of war; hostile measures falling short of war; privateers; the rights and duties of neutrals; enemy's property on land and at sea; the right of search; prizes; blockade; contraband; licenses to trade; recaptures; treaty of peace.	Woolsey's International Law.

*Saturday morning period.

FOURTH YEAR—FIRST CLASS.

FIRST TERM.

Department.	Number of recitations a week.	Number of months.	Subject.	Text-books.
<i>Seamanship, Naval Construction, and Naval Tactics.</i>	4	4	<p>NAVAL CONSTRUCTION: Wooden ship building; iron ship building; sheathing of ships; composite ships; launching; docks; docking; heaving down.</p> <p>SEAMANSHIP: Rigging ships; fitting ships for sea; stowage; bending and unbending sails; evolutions; duties of officers; repairs to rigging and spars; emergencies; organization; fitting and management of boats.</p> <p>Rules of the road; laws of storms.</p> <p>NAVAL TACTICS: Orders of steaming; fleet manœuvres.</p> <p>Signaling.</p>	<p>Wilson's Ship Building.</p> <p>Thearle's Naval Architecture.</p> <p>Reid's Ship Building.*</p> <p>Luce's Seamanship.</p> <p>Publications of the Bureau of Equipment and Recruiting.</p> <p>Navy Department Pamphlets.</p> <p>Parker's Fleet Tactics.</p> <p>Signal Books.</p>
<i>Ordnance and Gunnery.</i>	3	4	<p>ORDNANCE INSTRUCTIONS: Handling great guns; preparing ship for action; duties of officers and men when at quarters for exercise, and when engaged in battle; handling boat howitzers and machine guns, afloat and on shore; landing of seamen and marines.</p> <p>INFANTRY TACTICS: School of the soldier; school of the company; school of the battalion; instructions for skirmishers.</p> <p>GUNNERY: The motion of projectiles in a non-resisting medium and in air; the methods of finding the trajectory, the remaining velocity, and the angle of fall; the dangerous space; sighting and pointing guns; the errors liable to occur in practice at sea, and the methods of avoiding them; the preparation of range tables, and corrections for jump and drift; the determination of ranges at sea.</p>	<p>Ordnance Instructions.</p> <p>Upton's Tactics.</p> <p>Text-Book of Ordnance and Gunnery (Naval Academy Publication.)</p> <p>Exterior Ballistics. (Naval Academy Publication).</p> <p>Ordnance Notes.</p>
<i>Astronomy, Navigation, and Surveying.</i>	6	4	<p>THE CELESTIAL SPHERE: Spherical and rectangular co-ordinates; the use of instruments, especially those for determining terrestrial latitudes and longitudes; refraction; dip; parallax; the earth, sun, planets; different units of time; calendars; law of universal gravitation; precession; nutation; aberration; the moon; eclipses and occultations; tides; nebular hypothesis; comets and meteoric bodies; fixed stars; nebulae; motion of the solar system; solutions of the astronomical triangle; use of the Nautical Almanac.</p>	<p>White's Astronomy.</p> <p>Chauvenet's Spherical and Practical Astronomy.</p> <p>Bowditch's Navigator.</p> <p>American Ephemeris and Nautical Almanac.</p>

FOURTH YEAR—FIRST CLASS.

FIRST TERM—Continued.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Astronomy, Navigation, and Surveying.</i>	-----	-----	THE THEORY AND PRACTICE OF NAVIGATION, including instruction in the duties of the navigator, the construction and use of navigating instruments, the use of tables, and the solution of problems; determination of meridian distances.	Coffin's Navigation. Notes on Navigation and Meridian Distances.
<i>Mechanics and Applied Mathematics.</i>	3	1	METHOD OF LEAST SQUARES: The theory of least squares and probable errors; fundamental principles of the theory; practical methods and formulas; independent observations; conditioned observations.	Merriman's Method of Least Squares.
	3	3	APPLIED MECHANICS: Elasticity; stress and strain; theory of structures; strength and deflection of beams; beams of uniform resistance.	Cotterill's Applied Mechanics.

SECOND TERM.

<i>Seamanship, Naval Construction, and Naval Tactics.</i>	5	4	Course of the first term continued.	
<i>Ordnance and Gunnery.</i>	†5½	4	<p>GUNNERY: Accuracy and rapidity of fire; the probability of hitting objects of various forms; the mean and probable errors of guns; derivation of rules for correcting certain errors which arise in practice at sea; the penetration and effect of projectiles.</p> <p>ORDNANCE: The manufacture of guns; description of service guns; computation of the strength and shrinkage of guns; rifling; rotation and its influence on the motion of projectiles. The manufacture and use of gunpowder and other explosives; the force developed when explosives are fired in their own volume, and the equation of motion of the projectile in the bore of a gun on this hypothesis, and also on the hypothesis that the explosive burns progressively; the laws of burning of grains of gunpowder of various forms; the formulas (of Noble and Abel) connecting pressures with density of loading, and for determining the work of expansion in a gun; development of the principles involved in loading guns; formulas connecting muzzle velocities and pressures with the elements of loading.</p>	<p>Text-Book of Ordnance and Gunnery (Naval Academy Publication).</p> <p>The Elastic Strength of Guns (Naval Academy Publication). Breger's Probability of Hitting an Object. Sarrau on the Effects of Powder in Guns.</p>

†Saturday period.

FOURTH YEAR—FIRST CLASS.

SECOND TERM—Continued.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Ordnance and Gunnery.</i>	-----	-----	GUN CARRIAGES: Their construction and the mechanism employed in controlling and adjusting recoil, and the theory of such control. AMMUNITION: Its preparation and use.	
<i>Astronomy, Navigation, and Surveying.</i>	5	4	THEORY OF THE DEVIATION OF THE COMPASS, including the derivation and transformation of the fundamental equations, the nature and causes of the several parts of deviation, the determination of the vertical and horizontal forces of the earth and ship, and of the values of the approximate and exact coefficients, the causes and amount of the heeling error, the changes which take place upon a change of geographical position, the graphic representations of the amount and direction of the forces which act on the needle, and the mechanical correction of the deviation and heeling errors. Navigation. SURVEYING: The instruments used; selection and measurement of bases; determination of azimuth of base; triangulation; determination of heights; leveling; plotting a survey; hydrographical surveying; tidal observations; current observations; sailing directions; the form of the earth, with special reference to the construction of charts; projection by development; Mercator's, Flamsteed's, and Bonne's projections; the polyconic projection of the United States Coast Survey; running surveys; portable transit instrument and zenith telescope. Astronomy.	Howell's Theory of the Deviations of the Compass. Evans's Elementary Manual for the Deviations of the Compass in Iron Ships. Chauvenet's Spherical and Practical Astronomy. Howell's Marine Surveying. Projection Tables. Bowditch's Navigator.

ASSIGNMENT OF TIME.

Departments.	Fourth class.		Third class.		Second class.		First class.	
	1st term.	2d term.	1st term.	2d term.	1st term.	2d term.	1st term.	2d term.
Astronomy, Navigation, and Surveying . . . . .	.	.	.	.	.	.	6	5
Drawing . . . . .	.	.	1	5½	2	.	.	.
English Studies, History, and Law	5	5	5	.	.	2	.	.
Ordnance and Gunnery . . . . .	.	.	.	.	.	.	3	5½
Mathematics	6	5	5	5	.	.	.	.
Mechanics and Applied Mathematics . . . . .	.	.	.	.	5	5	3	.
Modern Languages	5	5½	5	.	.	.	.	.
Physics and Chemistry . . . . .	.	.	.	5	5	5	.	.
Seamanship, Naval Tactics, and Naval Construction	.	.	.	.	.	.	4	5
Steam Engineering . . . . .	.	.	.	.	4	3½	.	.

PROGRAMME OF RECITATIONS.

FIRST TERM.

Departments.	Fourth class.	Third class.	Second class.	First class.
Astronomy, Navigation, and Surveying	.	.	.	M. T. W. Th. F. S. (1).
Drawing	.	S. (1)	M. T. (3).	.
English Studies, History, and Law	M. T. W. Th. F. (2)	M. T. W. Th. F. (3).	.	W. (3), Th. F. (2).
Ordnance and Gunnery	.	.	.	M. T. W. (2).
Mathematics	M. T. W. Th. F. S. (1)	M. T. W. Th. F. (2).	.	.
Mechanics and Applied Mathematics	.	.	M. T. W. Th. F. (1)	.
Modern Languages	M. T. W. Th. F. (3)	{M. T. W. Th. F. (1)} {F. (7.30 to 9.30 p. m.)*}	M. T. W. Th. F. (2).	M. T. Th. F. (3).
Physics and Chemistry	.	.	.	.
Seamanship, Naval Tactics, and Naval Construction	.	.	W. Th. F. (3), S. (1).	.
Steam Engineering	.	.	.	.

SECOND TERM.

Astronomy, Navigation, and Surveying	.	.	.	M. T. W. Th. F. (1).
Drawing	.	M. T. W. Th. F. (3), S. (1)†	F. (7.30 to 9.30 p. m.)*	.
English Studies, History, and Law	M. T. W. Th. F. (2)	.	M. T. (3).	.
Ordnance and Gunnery	.	.	.	M. T. W. Th. F. (2), S. (1)†
Mathematics	M. T. W. Th. F. (1)	M. T. W. Th. F. (2).	.	.
Mechanics and Applied Mathematics	.	.	M. T. W. Th. F. (1).	.
Modern Languages	{M. T. W. Th. F. (3), S. (1)†} {F. (7.30 to 9.30 p. m.)*}	{M. T. W. Th. F. (1)} {F. (7.30 to 9.30 p. m.)*}	M. T. W. Th. F. (2).	.
Physics and Chemistry	.	.	.	M. T. W. Th. F. (3).
Seamanship, Naval Tactics, and Naval Construction	.	.	W. Th. F. (3), S. (1)†	F. (7.30 to 9.30 p. m.)*
Steam Engineering	.	.	.	.

* Lectures and practical instruction.

† Saturday period for second term from January 31 to March 10.

TABLE OF COEFFICIENTS.

Department and subjects.	Fourth class.	Third class.	Second class.	First class.	Maxima for four years.	Maxima for final graduation.
<i>Astronomy, Navigation, and Surveying.</i>						
Astronomy, Surveying, Theory of Navigation, Practical Navigation, and Theory of Compass Deviation . . . . .	.	.	.	20	80	4
<i>Drawing.</i>						
Mechanical Drawing . . . . .	.	6	4		40	
<i>English Studies, History, and Law.</i>						
English and History	6					
English, History, and Law . . . . .	.	6				
International Law . . . . .	.	.	4		64	
<i>Mathematics.</i>						
Algebra and Geometry	6					
Trigonometry, Analytical Geometry, and Descriptive Geometry . . . . .	.	12			72	
<i>Mechanics and Applied Mathematics.</i>						
Differential and Integral Calculus, and Mechanics. . . . .	.	.	14			
Least Squares and Strength of Materials . . . . .	.	.	.	5	76	
<i>Ordnance and Gunnery.</i>						
Ordnance Instructions, Infantry Tactics, Gunnery. . . . .	.	.	.	} *20	80	48
Ordnance and Gunnery			
<i>Modern Languages.</i>						
French and Spanish	6					
French and Spanish . . . . .	.	6			48	24
<i>Physics and Chemistry.</i>						
Chemistry . . . . .	.	6				
Sound, Light, and Heat . . . . .	.	.	7			
Electricity and Magnetism . . . . .	.	.	7		80	
<i>Seamanship, Naval Tactics, and Naval Construction.</i>						
Ship Building . . . . .	.	.	.	6		
Seamanship and Naval Tactics . . . . .	.	.	.	18	96	60
Cruise Reports, Journals, and Testimonials . . . . .	.	.	.	.	.	12
<i>Steam Engineering.</i>						
Steam Machinery, Marine Engines, and Boilers. . . . .	.	.	18			
Practical Instruction in Steam . . . . .	.	.	.	2	80	48
Conduct	1	2	3	5	44	
Maxima for each class	76	152	228	* 304	760	240

* In making up the standing for a year the second term is given double the weight of the first term.
Deductions for each demerit, 0.013, 0.032, 0.06, 0.133.

SEAMANSHIP.

Knotting and splicing; compass and lead line; ship nomenclature; cutting and fitting hemp rigging; cutting and fitting wire rigging; rowing, and the management of boats under oars and under sail; sail making; making up, bending, unbending, and handling sails; rigging ship; stripping ship; shifting spars; getting under way and anchoring; evolutions with vessels under sail and under steam; signaling, Myer's and Navy codes; management of steam launches; steam fleet-tactics (with steam launches).

ORDNANCE AND GUNNERY.

School of the soldier; school of the company; school of the battalion (infantry); skirmish drill; school of the battery; school of the battalion (artillery); exercises with broadside guns, pivot guns, monitor guns, mortars, boat howitzers, and machine guns; target practice with small-arms; target practice with mortars; target practice afloat with machine guns, rifled howitzers, and great guns; small-sword exercise; broadsword exercise; handling and firing torpedoes; determination of the strength and elasticity of gun-metal, with testing machine; determination of muzzle velocities with the Schultz chronoscope; determination of pressures in guns by means of pressure gauges; experimental determination of range tables, also of the jump and drift; application of photography to ordnance purposes; the preparation and inspection of ordnance material.

ASTRONOMY, NAVIGATION, AND SURVEYING.

Practical navigation; surveying and constructing a chart of a portion of the Severn River.

Swinging an iron ship, and observing the deviations and the times of vibration of horizontal and vertical needles on different courses; and from these observations finding the approximate and the exact coefficient and the horizontal and vertical forces acting on the standard and steering compasses; also finding the heeling coefficients for the same compasses without heeling the ship.

STEAM ENGINEERING.

Vise-bench work; forging; boiler-making; pattern-making; machine-tool work; taking apart and putting together engines; running engines of launches, vessels, and monitors (motive and turret).

PROGRAMME OF PRACTICAL INSTRUCTION.

When more than one exercise is prescribed during a week the number of such exercises is indicated by a figure in parenthesis.

FIRST CLASS.

Months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
Oct.....	1	Company (5).	Battery (5).	Target great guns (5).	Steam tactics (5).
		Monitor (1).	Monitor (1).	Monitor (1).	Monitor (1).
	2	Battery (5).	Company (5).	Steam tactics (5).	Target great guns (5).
		Monitor (1).	Monitor (1).	Monitor (1).	Monitor (1).
Nov.....	3	Target great guns (5).	Steam tactics (5).	Company (5).	Battery (5).
		Monitor (1).	Monitor (1).	Monitor (1).	Monitor (1).
	4	Steam tactics (5).	Target great guns (5).	Battery (5).	Company (5).
		Monitor (1).	Monitor (1).	Monitor (1).	Monitor (1).
Dec.....	1	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).
		Monitor (1).	Monitor (1).	Monitor (1).	Monitor (1).
	2	Seamanship (5).	Seamanship (5).	Seamanship (5).	Seamanship (5).
		Monitor (1).	Monitor (1).	Monitor (1).	Monitor (1).
Jan.....	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
		Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
	4	Broad sword.	Broad sword.	Practical ordnance.	Practical ordnance.
		Steam.	Steam.	Steam.	Steam.
Feb.....	1	Practical ordnance.	Steam.	Broad sword.	Steam.
		Steam.	Practical ordnance.	Steam.	Broad sword.
	2	Small sword.	Steam.	Practical ordnance.	Steam.
		Steam.	Small sword.	Steam.	Practical ordnance.
Mar.....	3	Practical ordnance.	Steam.	Small sword.	Steam.
		Steam.	Practical ordnance.	Small sword.	Steam.
	4	Practical ordnance.	Steam.	Small sword.	Steam.
		Steam.	Practical ordnance.	Small sword.	Steam.

SEMI-ANNUAL EXAMINATION.

Feb.....	1	Steam.	Practical ordnance.	Steam.	Small sword.
		Broad sword.	Steam.	Seamanship.	Steam.
	3	Steam.	Broad sword.	Steam.	Seamanship.
	4	Seamanship.	Steam.	Broad sword.	Steam.
Mar.....	1	Steam.	Seamanship.	Steam.	Broad sword.
		Seamanship.	Seamanship.	Seamanship.	Seamanship.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Compass deviation (5).	Compass deviation (5).	Compass deviation (5).	Compass deviation (5).
Apr.....	1	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
		General quarters.	General quarters.	General quarters.	General quarters.
	2	Target great guns (5).	Skirmish (5).	Steam tactics (5).	Torpedoes (5).
		General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
May.....	3	Skirmish (5).	Target great guns (5).	Torpedoes (5).	Steam tactics (5).
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	4	Steam tactics (5).	Torpedoes (5).	Target great guns (5).	Skirmish (5).
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
June.....	1	Torpedoes (5).	Steam tactics (5).	Skirmish (5).	Target great guns (5).
		General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	2	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
(Fifth week.)	3	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).
		Seamanship (3).	Seamanship (3).	Seamanship (3).	Seamanship (3).
	4	Steam tactics (3).	Steam tactics (3).	Steam tactics (3).	Steam tactics (3).
		General quarters (3).	General quarters (3).	General quarters (3).	General quarters (3).
(Fifth week.)	M.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	T.	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
	W.	General quarters.	General quarters.	General quarters.	General quarters.
	Th.	Steam tactics.	Steam tactics.	Steam tactics.	Steam tactics.
(Fifth week.)	F.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	S.	Seamanship.	Seamanship.	Seamanship.	Seamanship.

ANNUAL EXAMINATION.

June 1 to 10.....				
June 10 to Aug. 28				
Sept.....	Practice cruise.			
	On leave.			

SECOND CLASS.

Months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
Oct	1	Company.	Battery.	Pivot guns.	Running steam launches.
	2	Battery.	Company.	Running steam launches.	Pivot guns.
	3	Pivot guns.	Running steam launches.	Company.	Battery.
	4	Running steam launches.	Pivot guns.	Battery.	Company.
Nov	1	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
Dec	1	Small sword.	Steam.	Navy signals.	Steam.
	2	Steam.	Small sword.	Steam.	Navy signals.
	3	Navy signals.	Steam.	Small sword.	Steam.
	4				
Jan	1	Steam.	Navy signals.	Steam.	Small sword.
	2	Broad sword.	Steam.	Seamanship.	Steam.
	3	Steam.	Broad sword.	Steam.	Seamanship.
	4	Seamanship.	Steam.	Broad sword.	Steam.
	5	SEMI-ANNUAL EXAMINATION.			
Feb	1	Steam.	Seamanship.	Steam.	Broad sword.
	2	Small sword.	Steam.	Practical ordnance.	Steam.
	3	Steam.	Small sword.	Steam.	Practical ordnance.
	4	Practical ordnance.	Steam.	Small sword.	Steam.
Mar	1	Steam.	Practical ordnance.	Steam.	Small sword.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Broad sword (5).	Broad sword (5).	Broad sword (5).	Broad sword (5).
Apr.	1	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	2	General quarters.	General quarters.	General quarters.	General quarters.
	3	Target great guns (5).	Skirmish (5).	Steam tactics (5).	Target machine guns (5).
	4	General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	5	Skirmish (5).	Target great guns (5).	Target machine guns (5).	Steam tactics (5).
	6	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	7	Steam tactics (5).	Target machine guns (5).	Target great guns (5).	Skirmish (5).
May	1	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	2	Target machine guns (5).	Steam tactics (5).	Skirmish (5).	Target great guns (5).
	3	General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	4	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).
	5	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	6	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).
	7	Seamanship (3).	Seamanship (3).	Seamanship (3).	Seamanship (3).
	8	Seamanship (3).	Seamanship (3).	Seamanship (3).	Seamanship (3).
	9	General quarters (3).	General quarters (3).	General quarters (3).	General quarters (3).
(Fifth week.)	M.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	T.	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
	W.	General quarters.	General quarters.	General quarters.	General quarters.
	Th.	Small sword.	Small sword.	Small sword.	Small sword.
	F.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	S.	Seamanship.	Seamanship.	Seamanship.	Seamanship.
June 1 to 10	ANNUAL EXAMINATION.				

SECOND CLASS.

Months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
July	3	Machine shop a. m. Target machine guns p. m.	Machine shop a. m. Myer's signals p. m.	Machine shop a. m. Mortar practice p. m.	Machine shop a. m. Boats under sail p. m.
	4	Machine shop a. m. Howitzers afloat p. m.	Machine shop a. m. Target machine guns p. m.	Machine shop a. m. Myer's signals p. m.	Machine shop a. m. Mortar practice p. m.
	1	Machine shop a. m. Target howitzers p. m.	Machine shop a. m. Howitzers afloat p. m.	Machine shop a. m. Target machine guns p. m.	Machine shop a. m. Myer's signals p. m.
	2	Running steam cut- ters a. m. Navy signals p. m.	Machine shop a. m. Target howitzers p. m.	Machine shop a. m. Howitzers afloat p. m.	Machine shop a. m. Target machine guns p. m.
	3	Machine shop a. m. Steam tactics p. m.	Running steam cut- ters a. m. Navy signals p. m.	Machine shop a. m. Target howitzers p. m.	Machine shop a. m. Howitzers afloat p. m.
	4	Machine shop a. m. Steam tactics p. m.	Machine shop a. m. Steam tactics p. m.	Running steam cut- ters a. m. Navy signals p. m.	Machine shop a. m. Target howitzers p. m.
	5	Machine shop a. m. Target practice great guns p. m.	Machine shop a. m. Steam tactics p. m.	Machine shop a. m. Steam tactics p. m.	Running steam cut- ters a. m. Navy signals p. m.
	1	Machine shop a. m. Boats under oars p. m.	Machine shop a. m. Target great guns p. m.	Machine shop a. m. Steam tactics p. m.	Machine shop a. m. Steam tactics p. m.
	2	Machine shop a. m. Boats under sail p. m.	Machine shop a. m. Boats under oars p. m.	Machine shop a. m. Target great guns p. m.	Machine shop a. m. Steam tactics p. m.
	3	Machine shop a. m. Mortar practice p. m.	Machine shop a. m. Boats under sail p. m.	Machine shop a. m. Boats under oars p. m.	Machine shop a. m. Target great guns p. m.
	4	Machine shop a. m. Myer's signals p. m.	Machine shop a. m. Mortar practice p. m.	Machine shop a. m. Boats under sail p. m.	Machine shop a. m. Boats under oars p. m.
	1 2 3 4	On leave.			
Aug.					
Sept.	1				
	2				
	3				
	4				

THIRD CLASS.

Months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
Oct	1	Company.	Battery.	Pivot guns.	Boats with oars.
	2	Battery.	Company.	Boats with oars.	Pivot guns.
	3	Pivot guns.	Boats with oars.	Company.	Battery.
	4	Boats with oars.	Pivot guns.	Battery.	Company.
Nov	1	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
Dec	1	Small sword.	Seamanship.	Broadside guns.	Rigging loft.
	2	Rigging loft.	Small sword.	Seamanship.	Broadside guns.
	3	Broadside guns.	Rigging loft.	Small sword.	Seamanship.
Jan	1	Seamanship	Broadside guns.	Rigging loft.	Small sword.
	2	Small sword	Target small arms	Broadside guns.	Rigging loft.
	3	Rigging loft	Small sword.	Target small arms.	Broadside guns.
	4	Broadside guns	Rigging loft.	Small sword.	Target small arms.
	5	SEMI-ANNUAL EXAMINATION.			
Feb	1	Target small arms.	Broadside guns.	Rigging loft.	Small sword.
	2	Small sword.	Target pistol.	Myer's signals.	Rigging loft.
	3	Rigging loft.	Small sword.	Target pistol.	Myer's signals.
	4	Myer's signals.	Rigging loft.	Small sword.	Target pistol.
Mar	1	Target pistol.	Myer's signals.	Rigging loft.	Small sword.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Pivot guns (5).	Pivot guns (5).	Pivot guns (5).	Pivot guns (5).
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
Apr	1	General quarters.	General quarters.	General quarters.	General quarters.
	2	Target small arms(5).	Skirmish (5).	Seamanship (5).	Boats with oars (5).
	3	General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	4	Skirmish (5).	Target small arms(5).	Boats with oars (5).	Seamanship.
		Seamanship (1).	Seamanship (1).	Seamanship (1).	
		Seamanship.	Boats with oars (5).	Target small arms(5).	Skirmish (5).
May	1	Boats with oars (5).	Seamanship (5).	Seamanship (1).	Seamanship (1).
	2	General quarters (1).	General quarters (1).	Skirmish (5).	Target small arms(5).
	3	Battalion infantry(5).	Battalion infantry(5).	General quarters (1).	General quarters (1).
	4	Seamanship (1).	Seamanship (1).	Battalion infantry(5).	Battalion infantry(5).
		Battalion artillery(3).	Battalion artillery(3).	Seamanship (1).	Seamanship (1).
		Seamanship (3).	Seamanship (3).	Battalion artillery(3).	Battalion artillery(3).
		Small sword (3).	Small sword (3).	Seamanship (3).	Seamanship (3).
		General quarters (3).	General quarters (3).	Small sword (3).	Small sword (3).
(Fifth week.)	M.	Battalion infantry.	Battalion infantry.	General quarters (3).	General quarters.
	T.	Battalion artillery.	Battalion artillery.	Battalion infantry.	Battalion infantry.
	W.	General quarters.	General quarters.	Battalion artillery.	Battalion artillery.
	Th.	Boats with oars.	Boats with oars.	General quarters.	General quarters.
	F.	Battalion infantry.	Battalion infantry.	Boats with oars.	Boats with oars.
	S.	Seamanship.	Seamanship.	Battalion infantry.	Battalion infantry.
June 1 to 10.	ANNUAL EXAMINATION.				
June 10 to Aug. 28.	Practice cruise.				
Sept.	On leave.				

FOURTH CLASS.

Months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
Oct.....	1	Company.	Battery.	Gymnastics.	Boats with oars.*
	2	Battery.	Company.	Boats with oars.	Gymnastics.
	3	Gymnastics.	Boats with oars.	Company.	Battery.
	4	Boats with oars.	Gymnastics.	Battery.	Company.
Nov.....	1	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
Dec.....	1	Dancing.	Gymnastics.	Broadside guns.	Rigging loft.
	2	Rigging loft.	Dancing.	Gymnastics.	Broadside guns.
	3	Broadside guns.	Rigging loft.	Dancing.	Gymnastics.
	4				
Jan.....	1	Gymnastics.	Broadside guns.	Rigging loft.	Dancing.
	2	Dancing.	Gymnastics.	Broadside guns.	Rigging loft.
	3	Rigging loft.	Dancing.	Gymnastics.	Broadside guns.
	4	Broadside guns.	Rigging loft.	Dancing.	Gymnastics.
	5	SEMI-ANNUAL EXAMINATION.			
Feb....	1	Gymnastics.	Broadside guns.	Rigging loft.	Dancing.
	2	Dancing.	Gymnastics.	Dancing.	Rigging loft.
	3	Rigging loft.	Dancing.	Gymnastics.	Dancing.
	4	Dancing.	Rigging loft.	Dancing.	Gymnastics.
Mar.....	1	Gymnastics.	Dancing.	Rigging loft.	Dancing.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Company (5).	Company (5).	Company (5).	Company (5).
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
Apr.....	1	General quarters.	General quarters.	General quarters.	General quarters.
	2	Rigging loft (5).	Skirmish (5).	Seamanship (5).	Boats with oars (5).
	3	General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	4	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship.
		Boats with oars (5).	Boats with oars (5).	Boats with oars (5).	
May.....	1	Boats with oars (5).	Seamanship (1).	Seamanship (1).	Skirmish (5).
	2	General quarters (1).	General quarters (1).	General quarters (1).	Seamanship (1).
	3	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).	Rigging loft (5).
	4	Seamanship (1).	Seamanship (1).	Seamanship (1).	General quarters (1).
		Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).
		Seamanship (3).	Seamanship (3).	Seamanship (3).	Seamanship (3).
		General quarters (3).	General quarters (3).	General quarters (3).	General quarters (3).
(Fifth week.)	M.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	T.	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
	W.	General quarters.	General quarters.	General quarters.	General quarters.
	Th.	Boats with oars.	Boats with oars.	Boats with oars.	Boats with oars.
	F.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	S.	Seamanship.	Seamanship.	Seamanship.	Seamanship.
June 1 to 10.	ANNUAL EXAMINATION.				
June 10 to Aug. 23.	Practice cruise.				
Sept.....	1	School of soldier.*	School of soldier.*	School of soldier.*	School of soldier.*
	2	School of soldier.*	School of soldier.*	School of soldier.*	School of soldier.*
	3	School of soldier.*	School of soldier.*	School of soldier.*	School of soldier.*
	4	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.
		School of soldier.*	School of soldier.*	School of soldier.*	School of soldier.*
		Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.

*Swimming daily.

Kind of instruction.

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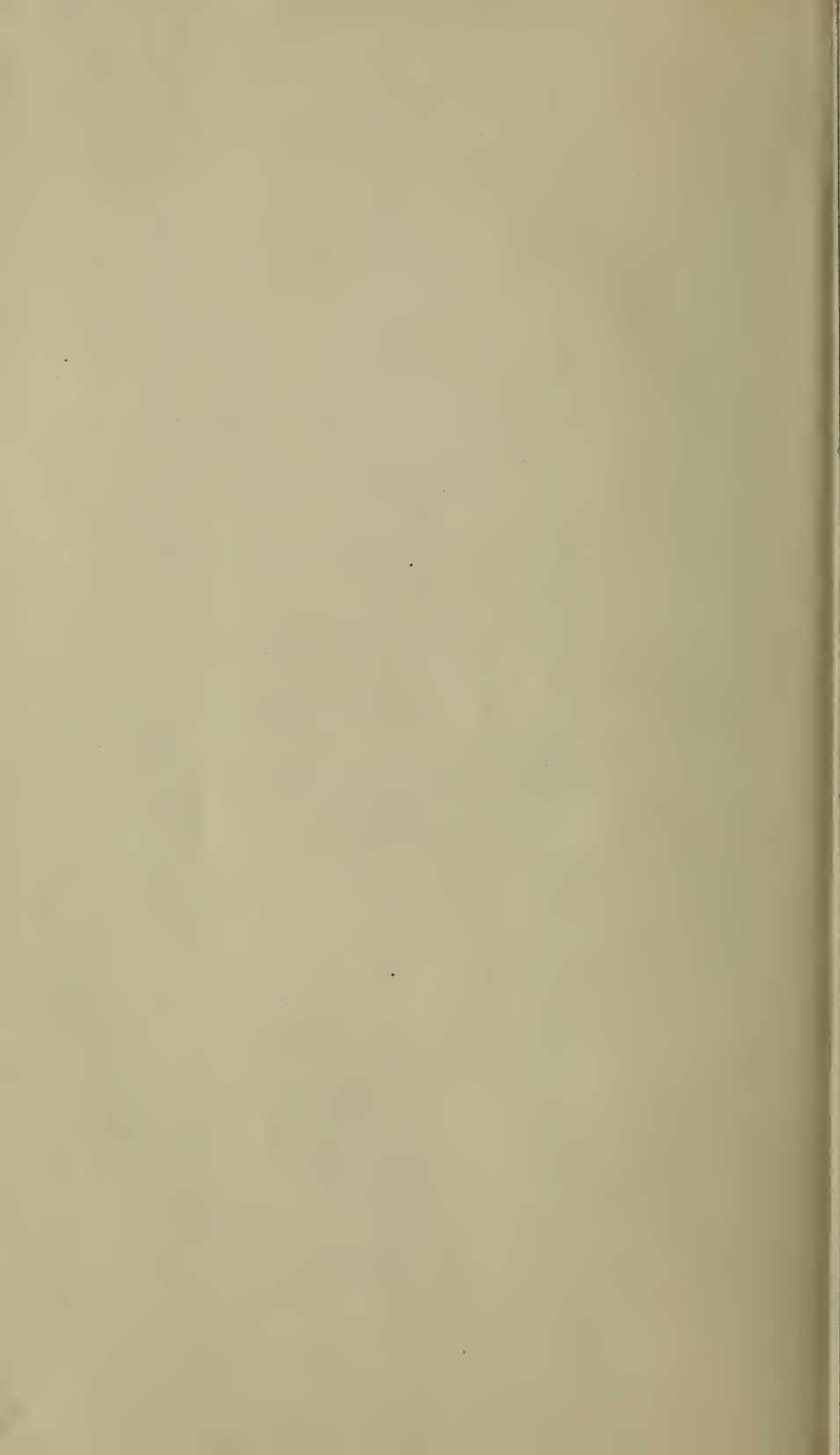
Kind of instruction.	During the academic year.				Total number of instructions during academic year.	During summer months.				During month of September, fourth class.	Total number of instructions, exclusive of practice cruise.
	First class.	Second class.	Third class.	Fourth class.		First class.	Second class.	Third class.	Fourth class.		
School of the company	5	6		11	28	.	.	.	.	.	28
School of the battalion, infantry	12	13	13	13	51	.	.	.	.	.	51
Skirmish drill	5	5	5	5	20	.	.	.	.	.	20
Broad sword	12	11			23	.	.	.	.	.	23
Small sword	6	13	21		40	.	.	.	.	.	40
Practical instruction in deviation of compass	5		.	.	5	(*)	.	.	.	.	5
Practical instruction, navigation	†14	†13	.	.	.	(*)	.	.	.	.	†27
Practical instruction, surveying	†10		.	.	.	.	.	.	.	.	†10
Machine shop and running shop engines	36, and †13	36	.	.	72	.	60	.	.	.	132, and †13
Running steam launches . . . . .	.	6	.	.	6	.	6	.	.	.	12
Practical instruction in chemistry . . . . .	.	.	†13		.	.	.	.	.	.	†13
Gymnastics . . . . .	.	.	.	24	24	.	.	.	.	.	24
Swimming . . . . .	.	.	.	.	.	.	.	.	.	.	24
Dancing . . . . .	.	.	.	24	24	.	.	.	.	24	24

* Practice cruise.

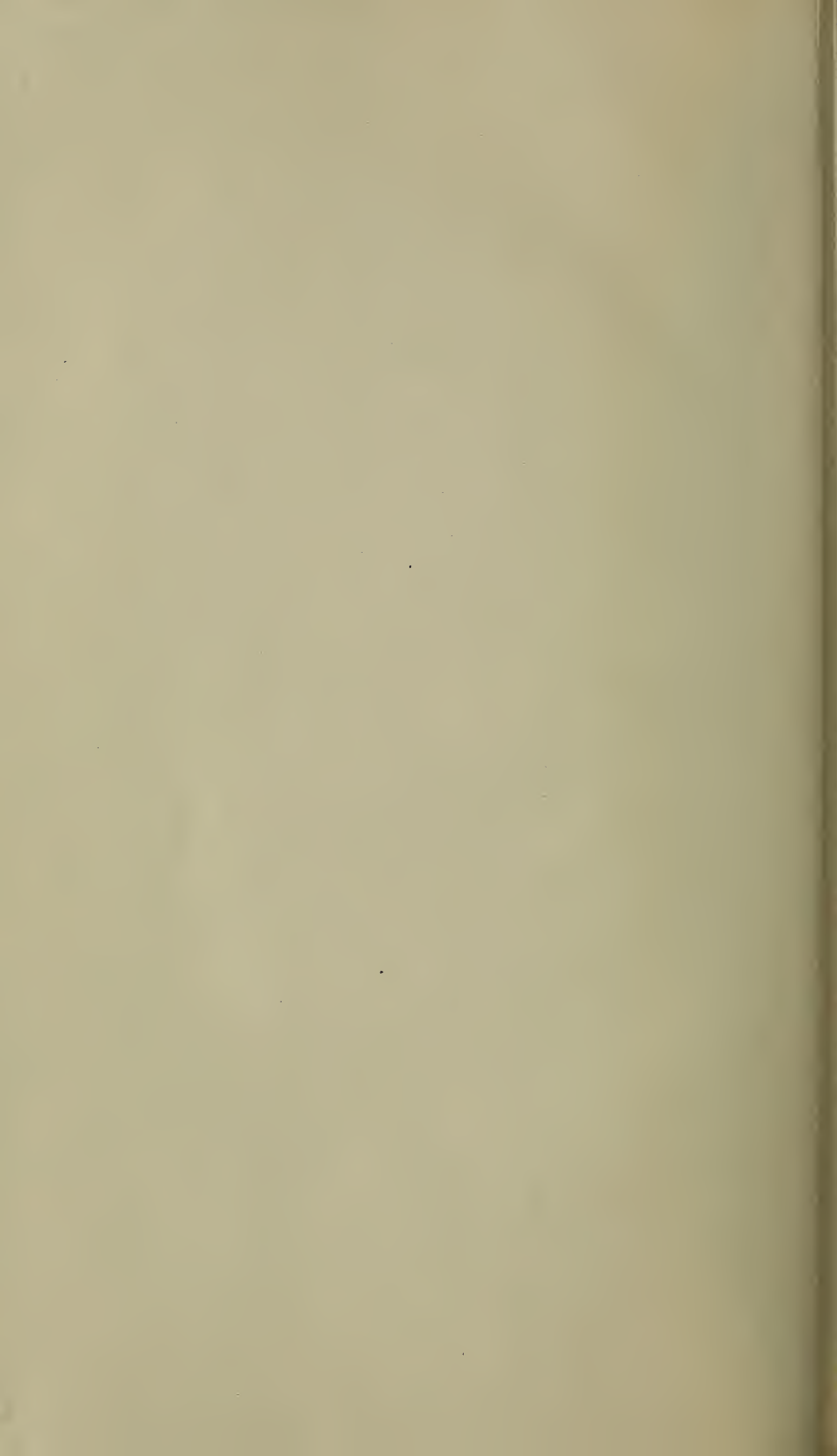
† Study periods.

The instructions in seamanship and gunnery on board of the Wyoming, Passaic, and Standish are also made instructions in running and managing the engines and boilers of those vessels. The instructions in naval tactics are also made instructions in running and managing the engines and boilers of the steam launches when practicable.









Annual register

1885-1886

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